Chapter-1 Getting To Know Excel 2013

Introduction

Excel 2013 is a **spreadsheet program** that allows you to **store**, **organize**, and **analyze information**. While you may believe Excel is only used by certain people to process complicated data, anyone can learn how to take advantage of the program's **powerful features**. Whether you're keeping a budget, organizing a training log, or creating an invoice, Excel makes it easy to work with different types of data.

Getting to know Excel 2013

Excel 2013 is similar to Excel 2010. If you've previously used Excel 2010, Excel 2013 should feel familiar. If you are new to Excel or have more experience with older versions, you should first take some time to become familiar with the **Excel 2013 interface**.



The Ribbon

Excel 2013 uses a **tabbed Ribbon system** instead of traditional menus. **The Ribbon** contains **multiple tabs**, each with several **groups of commands**. You will use these tabs to perform the most **common tasks** in Excel.

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The **Home** tab gives you access to some of the most commonly used commands for working with data in Excel 2013, including **copying and pasting**, **formatting**, and **number styles**. The Home tab is selected by default whenever you open Excel.

To minimize and maximize the Ribbon:

The Ribbon is designed to respond to your current task, but you can choose to **minimize** it if you find that it takes up too much screen space.

1. Click the **Ribbon Display Options** arrow in the upper-right corner of the Ribbon.

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- Select the desired **minimizing option** from the drop-down menu: 2.
 - 0 Auto-hide Ribbon: Auto-hide displays your workbook in full-screen mode and completely hides the Ribbon. To show the Ribbon, click the Expand Ribbon command at the top of screen.
 - 0 Show Tabs: This option hides all command groups when they're not in use, but **tabs** will remain visible. To **show the Ribbon**, simply click a tab.



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The Quick Access toolbar

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Click a tab to

show the Ribbon

Located just above the Ribbon, the Quick Access toolbar lets you access common commands no matter which tab is selected. By default, it includes the Save, Undo, and Repeat commands. You can add other commands depending on your preference.

To add commands to the Quick Access toolbar:

- 1. Click the drop-down arrow to the right of the Quick Access toolbar.
- 2. Select the **command** you want to add from the drop-down menu. To choose from more commands, select More Commands.
- The command will be **added** to the Quick Access 3. toolbar.



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2	✓ Redo	
4	Sort Ascending	
5	Sort Descending	
6	Touch/Mouse Mode	
7	More Commands	
8	Show Below the Ribbon	
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Backstage view

Backstage view gives you various options for saving, opening a file, printing, and sharing your workbooks.

To access Backstage view:

Click the File tab on the Ribbon. Backstage 1. view will appear.

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Click the buttons in the

interactive below to learn more

about using Backstage view.



Worksheet views

Excel 2013 has a variety of viewing options that change how your workbook is displayed. You can choose to view any workbook in **Normal view, Page Layout view**, or **Page Break view**. These views can be useful for various tasks, especially if you're planning to **print** the spreadsheet.

• To **change worksheet views**, locate and select the desired **worksheet view command** in the bottom-right corner of the Excel window.



Click the arrows in the slideshow below to review the different worksheet view options.

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5	Bears	Giants		Saturday	Saturday, July	09, 2011	2:00 PM	
6	Bears	Marlins		Saturday	Saturday, July	02, 2011	2:00 PM	
7	Bears	Bulls		Saturday	Saturday, July	16, 2011	10:00 AM	
8	Bears	Eagles		Saturday	Saturday, July	23, 2011	10:00 AM	
9	Bears	Hawks		Saturday	Saturday, August	20, 2011	10:00 AM	
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12	Bulls	Cavaliers		Saturday	Saturday, June	25, 2011	2:00 PM	
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14	Bulls	Giants		Saturday	Saturday, August	20, 2011	2:00 PM	
15	Bulls	Hawks		Saturday	Saturday, August	06, 2011	2:00 PM	
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Normal view: This is the default view for all worksheets in Excel.



Page Layout view: This view can help you visualize how your worksheet will appear when printed. You can also add headers and footers from this view.



Page Break view: This view makes it easy to change the location of page breaks in your workbook, which is especially helpful when printing a lot of data from Excel.

Chapter-2 Creating and Opening Workbooks

Introduction

Excel files are called **workbooks**. Whenever you start a new project in Excel, you'll need to **create a new workbook**. There are several ways to start working with a workbook in Excel 2013. You can choose to **create a new workbook**—either with a **blank workbook** or a predesigned **template**—or **open an existing** workbook.

To create a new blank workbook:

- 1. Select the **File** tab. **Backstage view** will appear.
- 2. Select **New**, then click **Blank workbook**.



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	7 Blank workbook Welcome to Excel *

3. A new blank workbook will appear.

To open an existing workbook:

In addition to creating new workbooks, you'll often need to open a workbook that was saved. To learn more about saving workbooks, visit our lesson on <u>Saving and</u> <u>Workbooks</u>.

1. Navigate to **Backstage view**, then click **Open**.



2. Select **Computer**, then click **Browse**. Alternatively, you can choose **OneDrive (previously known as SkyDrive**) to open files stored on your **OneDrive**.



3. The **Open** dialog box will appear. Locate and select your **workbook**, then click **Open**.

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the **workbook** you want to pin. A **pushpin icon +** will appear next to the workbook. Click the **pushpin icon**.



You can also **pin folders** to Backstage view for faster access. From Backstage view, click **Open**, then locate the **folder** you want to pin and click the **pushpin icon**.

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Desktop

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My Documents » Misc » Javy's Documents

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Recent Workbooks

Javier Flores's OneDrive

 The workbook will stay in Recent Workbooks. To unpin a workbook, simply click the pushpin icon again.



Using templates

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Pin this item to the list

A **template** is a **predesigned spreadsheet** you can use to create a new workbook quickly. Templates often include **custom formatting** and **predefined formulas**, so they can save you a lot of time and effort when starting a new project.

To create a new workbook from a template:

1. Click the **File** tab to access **Backstage view**.



- 2. Select New. Several templates will appear below the Blank workbook option.
- 3. Select a **template** to review it.
- A **preview** of the template will 4 appear, along with additional information on how the template can be used.
- 5. Click Create to use the selected template.

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6. A new workbook will appear with the selected template.

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You can also browse templates by category or use the search bar to find something more specific.

It's important to note that not all templates are created by Microsoft. Many are created by third-party providers and even individual users, so some templates may work better than others.



Compatibility mode

Sometimes you may need to work with workbooks that were created in earlier versions of Microsoft Excel, such as Excel 2003 or Excel 2000. When you open these types of workbooks, they will appear in Compatibility mode.

Compatibility mode **disables** certain features, so you'll only be able to access commands found in the program that was used to create the workbook. For example, if you open a workbook created in Excel 2003, you can only use tabs and commands found in Excel 2003.

In the image below, you can see that the workbook is in Compatibility mode. This will disable some Excel 2013 features, such as spark lines and slicers.

Employee_Sales [Compatibility Mode] Excel					
Recommended Charts	🌖 v 🔛 v		Power View	Line Column Win/ Loss	Slicer Timeline
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In order to exit Compatibility mode, you'll need to **convert** the workbook to the current version type. However, if you're collaborating with others who only have access to an earlier version of Excel, it's best to leave the workbook in Compatibility mode so the format will not change.

To convert a workbook:

If you want access to all of the Excel 2013 features, you can **convert** the workbook to the 2013 file format.

Note that converting a file may cause some changes to the **original layout** of the workbook.

- 1. Click the **File** tab to access Backstage view.
- 2. Locate and select **Convert** command.



¢	Employee_Sales [Compatibility Mode] - Excel	 The Save As dialog box will appear. Select the location where you want to save the workbook, enter a file name for the presentation, and click Save. 	
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4. The workbook will be converted to the newest file type.

Chapter-3 Saving and Sharing Workbooks

Introduction

Whenever you create a new workbook in Excel, you'll need to know how to **save** it in order to access and edit it later. As with previous versions of Excel, you can save files **locally** to your computer. But unlike older versions, Excel 2013 also lets you save a workbook to **the cloud** using **OneDrive**. You can also **export** and **share** workbooks with others directly from Excel.

OneDrive was previously called SkyDrive. There's nothing fundamentally different about the way OneDrive works—it's just a new name for an existing service. Over the next few months, you may still see SkyDrive in some Microsoft products.

Save and Save As

Excel offers two ways to save a file: **Save** and **Save As**. These options work in similar ways, with a few important differences:

- **Save**: When you create or edit a workbook, you'll use the **Save** command to save your changes. You'll use this command most of the time. When you save a file, you'll only need to choose a file name and location the first time. After that, you can just click the Save command to save it with the same name and location.
- **Save As**: You'll use this command to create a **copy** of a workbook while keeping the original. When you use Save As, you'll need to choose a different name and/or location for the copied version.

To save a workbook:

It's important to **save your workbook** whenever you start a new project or make changes to an existing one. Saving early and often can prevent your work from being lost. You'll also need to pay close attention to **where you save** the workbook so it will be easy to find later.

1. Locate and select the **Save** command on the **Quick Access** toolbar.



- 2. If you're saving the file for the first time, the **Save As** pane will appear in **Backstage view**.
- You'll then need to choose where to save the file and give it a file name. To save the workbook to your computer, select Computer, then click Browse. Alternatively, you can click OneDrive to save the file to your OneDrive.



- The Save As dialog box will appear. Select the location where you want to save the workbook.
- 5. Enter a **file name** for the workbook, then click **Save**.
- The workbook will be saved. You can click the Save command again to save your changes as you modify the workbook.

You can also access the **Save** command by pressing **Ctrl+S** on your keyboard.

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Using Save As to make a copy

If you want to save a **different version** of a workbook while keeping the original, you can create a **copy**. For example, if you have a file named **Sales Data**, you could save it as **Sales Data 2** so you'll be able to edit the new file and still refer back to the original version.

To do this, you'll click the **Save As** command in Backstage view. Just like when saving a file for the first time, you'll need to choose **where to save** the file and give it a new **file name**.

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To change the default save location:

If you don't want to use **OneDrive**, you may be frustrated that OneDrive is selected as the default location when saving. If you find it inconvenient to select **Computer** each time, you can change the **default save location** so **Computer** is selected by default.

- 1. Click the **File** tab to access **Backstage view**.
- 2. Click **Options**.

Save As
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3. The **Excel Options** dialog box will appear. Select **Save**, **check the box** next to **Save to Computer by default**, then click **OK**. The default save location will be changed.

	Excel Options	? ×	
General ^ Formulas	Customize how workbooks are saved.	^	
Proofing	Save workbooks		
Save 🚽	Click Save, then t Excel Workbook	¥	
Language	check the box information every 10 📑 minutes		
Advanced	Keep the last autosaved version if I close without saving	_	
Customize Ribbon	AutoRecover file location: C:\Users\anetzel\AppData\Roaming	g∖Mir	
Quick Access Toolbar	Don't show the Backstage when opening or saving files Show additional places for saving, even if sign-in may be required	d	
Add-Ins 🗸	Save to <u>Computer by default</u>	u. v	
	OK	Cancel]

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AutoRecover

Excel automatically saves your workbooks to a temporary folder while you are working on them. If you forget to save your changes or if Excel crashes you can restore the file using **AutoRecover**.

To use AutoRecover:

- 1. Open Excel 2013. If **autosaved versions** of a file are found, the **Document Recovery** pane will appear.
- 2. Click to **open** an available file. The workbook will be **recovered**.



By default, Excel autosaves every 10 minutes. If you are editing a workbook for less than 10 minutes, Excel may not create an autosaved version.

If you don't see the file you need, you can browse all autosaved files from **Backstage view**. Just select the **File** tab, click **Manage Versions,** then choose **Recover Unsaved Workbooks**.



Exporting workbooks

By default, Excel workbooks are

saved in the **.xlsx** file type. However, there may be times when you need to use **another file type**, such as a **PDF** or **Excel 97-2003 workbook**. It's easy to **export** your workbook from Excel in a variety of file types.

To export a workbook as a PDF file:

Exporting your workbook as an **Adobe Acrobat document**, commonly known as a **PDF file**, can be especially useful if you're sharing a workbook with someone who does not have Excel. A PDF will make it possible for recipients to view but not edit the content

of your workbook.

- 1. Click the **File** tab to access **Backstage view**.
- 2. Click **Export**, then select **Create PDF/XPS**.



 The Save As dialog box will appear. Select the location where you want to export the workbook, enter a file name, then click Publish.

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By default, Excel will only export

the **active worksheet**. If you have multiple worksheets and want to save all of them in the same PDF file, click **Options** in the **Save as** dialog box. The **Options** dialog box will appear. Select **Entire workbook**, then click **OK**.



Whenever you export a workbook as a PDF, you'll also need to consider how your workbook data will appear on each **page** of the PDF, just like **printing** a workbook. Visit our **Page Layout** lesson to learn more about what to consider before exporting a workbook as a PDF.

To export a workbook in other file types:

You may also find it helpful to export your workbook in other file types, such as an **Excel 97-2003 workbook** if you need to share with people using an older version of Excel, or a **.CSV file** if you need a **plain-text version** of your workbook.

- 1. Click the File tab to access Backstage view.
- 2. Click **Export**, then select **Change File Type**.



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3. Select a common file type, then click Save As.



You can also use the **Save as type:** drop-down menu in the **Save As** dialog box to save workbooks in a variety of file types.



Sharing workbooks

Excel 2013 makes it easy to **share and collaborate** on workbooks using **OneDrive**. In the past, if you wanted to share a file with someone you could send it as an email attachment. While convenient, this system also creates **multiple versions** of the same file, which can be difficult to organize.

When you share a workbook from Excel 2013, you're actually giving others access to the **exact same file**. This lets you and the people you share with **edit the same workbook** without having to keep track of multiple versions.

In order to share a workbook, it must first be **saved to your OneDrive**.

To share a workbook:

1. Click the **File** tab to access **Backstage view**, then click **Share**.



2. The **Share** pane will appear.

Click the buttons in the interactive below to learn more about different ways to share a workbook.



Chapter-4 Cell Basics

Introduction

Whenever you work with Excel, you'll enter information—or **content**—into **cells**. Cells are the basic building blocks of a worksheet. You'll need to learn the basics of **cells** and **cell content** to calculate, analyze, and organize data in Excel.

Understanding cells

Every worksheet is made up of thousands of rectangles, which are called **cells**. A cell is the **intersection** of a **row** and a **column**. Columns are identified by **letters (A, B, C)**, while rows are identified by **numbers (1, 2, 3)**.



Each cell has its own **name**—or **cell address**—based on its column and row. In this example, the selected cell intersects **column C** and **row 5**, so the cell address is **C5**. The cell address will also appear in the **Name box**. Note that a cell's **column** and **row headings** are **highlighted** when the cell is selected.



You can also select **multiple cells** at the same time. A group of cells is known as a **cell range**. Rather than a single cell address, you will refer to a cell range using the cell addresses of the **first** and **last** cells in the cell range, separated by a **colon**. For example, a cell range that included cells A1, A2, A3, A4, and A5 would be written as **A1:A5**.

In the images below, two different cell ranges are selected:

Cell range A1:A8



Cell range A1:B8



If the columns in your spreadsheet are labeled with numbers instead of letters, you'll need to change the default reference style for Excel

To select a cell:

To input or edit cell content, you'll first need to **select** the cell.

- 1. Click a **cell** to select it.
- A border will appear around the selected cell, and the column heading and row heading will be highlighted. The cell will remain selected until you click another cell in the worksheet.

You can also select cells using the **arrow keys** on your keyboard.

To select a cell range:

Sometimes you may want to select a larger group of cells, or a **cell range**.

- 1. Click, hold, and drag the mouse until all of the **adjoining cells** you want to select are **highlighted**.
- 2. Release the mouse to **select** the desired cell range. The cells will remain **selected** until you click another cell in the worksheet.

Cell content

Any information you enter into a spreadsheet will be stored in a cell. Each cell can contain different types of **content**, including **text**, **formatting**, **formulas**, and **functions**.

• Text

Cells can contain **text**, such as letters, numbers, and dates.

4	A	В	С
1	Date	Sales	Percentage of Total
2	5/6/2013	65	0.71
3	5/7/2013	78	0.78
4	5/8/2013	112	0.86
5	5/9/2013	54	0.28
6	5/10/2013	99	0.49
7	5/11/2013	189	0.65
8	5/12/2013	120	0.57
9			

Formatting attributes

Cells can contain **formatting attributes** that change the way letters, numbers, and dates are **displayed**. For example, percentages can appear as 0.15 or 15%. You can even change a cell's **background color**.

	А	В	С
1	Date	Sales	Percentage of Total
2	Monday, May 06, 2013	\$ 65.00	71%
з	Tuesday, May 07, 2013	\$ 78.00	78%
4	Wednesday, May 08, 2013	\$ 112.00	86%
5	Thursday, May 09, 2013	\$ 54.00	28%
6	Friday, May 10, 2013	\$ 99.00	49%
7	Saturday, May 11, 2013	\$ 189.00	65%
8	Sunday, May 12, 2013	\$ 120.00	57%
9			

• Formulas and functions Cells can

contain formulas and functions that

calculate cell values. In our example,

SUM(B2:B8) adds the value of each cell in cell range B2:B8 and displays the total in cell B9.

BS	• • E × •	/	fx =SUM(B	2:B8)
	А		В	С
1	Date		Sales	Percentage of Total
2	Monday, May 06, 2013	\$	65.00	71%
3	Tuesday, May 07, 2013	\$	78.00	78%
4	Wednesday, May 08, 2013	\$	112.00	86%
5	Thursday, May 09, 2013	\$	54.00	28%
6	Friday, May 10, 2013	\$	99.00	49%
7	Saturday, May 11, 2013	\$	189.00	65%
8	Sunday, May 12, 2013	\$	120.00	57%
9	Weekly Sales	\$	717.00	

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To insert content:

1. Click a **cell** to select it.

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 Type content into the selected cell, then press Enter on your keyboard. The content will appear in the cell and the formula bar. You can also input and edit cell content in the formula bar.



To delete cell content:

1. Select the **cell** with content you want to delete.

	А	В	С
1			
2	First Name	Middle Name	Last Name
3	Heidi	Lauren 🗘	Lee
4	Josie	Marie	Gates
5	Wendy	Anne	Crocker
6	Loretta	Susan	Johnson

 Press the **Delete** or **Backspace** key on your keyboard. The cell's contents will be deleted.

	A	В	С
1			
2	First Name	Middle Name	Last Name
3	Heidi		Lee
4	Josie	Marie	Gates
5	Wendy	Anne	Crocker
6	Loretta	Susan	Johnson

You can use the **Delete** key on your keyboard to delete content

from multiple cells at once. The Backspace key will only delete one cell at a time.

To delete cells:

There is an important difference between **deleting the content of a cell** and **deleting the cell itself**. If you delete the entire cell, the cells below it will **shift up** and replace the deleted cells.

1. Select the **cell(s)** you want to delete.

	Α	В	C
1			С,
2	First Name	Middle Name	Last Name
3	Heidi	Joy	Lee
4	Josie	Marie	Gates
5	Wendy	Anne	Crocker
6	Loretta	Susan	Johnson

3. The cells below will **shift up**.

	А	В	С
1	First Name	Middle Name	Last Name
2	Heidi	Joy	Lee
3	Josie	Marie	Gates
4	Wendy	Anne	Crocker
5	Loretta	Susan	Johnson

2. Select the **Delete** command from the **Home** tab on the **Ribbon**.

	• •	🗶 Clear ▼	Sort & Filter ▼
	Cells	Edi	iting
0	Delete Cells Delete cells, ro- sheets from yo	ws, columns, or our workbook.	
	columns at a ti	multiple rows or ime, select multip ns in the sheet, ar	

To copy and paste cell content:

Excel allows you to **copy** content that is already entered into your spreadsheet and **paste** that content to other cells, which can save you time and effort.

1. Select the **cell(s)** you want to **copy**.

D	E
Friday, March 01, 2013	Friday, March 08, 2013
x	

 Click the Copy command on the Home tab, or press Ctrl+C on your keyboard.



 FILE
 HOME
 INSERT
 PAGE LAYOUT

 Paste
 Copy →
 Calibri ↓ 11

 Paste
 ✓
 Format Painter

 Clipboard
 rs
 Font

 Paste (Ctrl+V)
 Add content on the Clipboard to your document.
 fs

 1
 First Name
 Last Name
 Email

 Select the cell(s) where you want to paste the content. The copied cells will now have a dashed box around them.



The content will be **pasted** into the selected cells.

D	E
Friday, March 01, 2013	Friday, March 08, 2013
x	x

To cut and paste cell content:

Unlike copying and pasting, which duplicates cell content, cutting allows you to move content between cells.

4.

5.

1. Select the **cell(s)** you want to **cut**.

D	E		
Friday, March 01, 2013	Friday, March 08, 2013		
x	x		
	x		
	x		
	хФ		

 Select the cells where you want to paste the content. The cut cells will now have a dashed box around them.



 The cut content will be removed from the original cells and pasted into the selected cells.

D	E		
Friday, March 01, 2013	Friday, March 08, 2013		
x	x		
x			
x			
x			

 Click the Cut command on the Home tab, or press Ctrl+X on your keyboard.



Click the **Paste** command on the **Home** tab, or press **Ctrl+V** on your keyboard.



F

To access more paste options:

You can also access additional paste options, which are especially convenient when working with cells that contain formulas or formatting.

. To access more paste options, click the **drop-down** arrow on the Paste command.

XII 🖬 与-	Ì	~ C	j =			
FILE HON	νIE	INS	ERT		PAG	e layo
Paste		nter	Cali B		U	-
Paste		5				Font
Paste Values		Source	< ce Foi	~ rmat	<i>f</i> s tting	
Other Paste Op	tions					
Paste Specia	١					
Faste Specia						

Е

Delete... Clear Contents

	Friday March 01 201	
	Friday, March 01, 201 x	Calibri - 11 - A A \$ - % *
Rather than choose commands from the Ribbon, you can access commands quickly	х	B I ≡ 🏠 - 🗛 - 🗄 - 500 →00 💉
by right-clicking . Simply select	x	
the cell(s) you want to format, then right-	х	K Cut
click the mouse. A drop-down menu will	x	E Copy
appear, where you'll find	x	Paste Options:
several commands that are also located on	x	Paste Options:
the Ribbon.	x	🖹 🗎 👘 👘
	x	Paste Special
	х	Insert
	x	Tuzett

D

To drag and drop cells:

Rather than cutting, copying, and pasting, you can drag and drop cells to move their contents.

Select the **cell(s)** you want to **move**. 1.

cross with four arrows

2. Hover the mouse over the **border** of the selected cell(s) until the cursor changes from a white ${f cross}$ igodown to a **black**

F	G
Friday, March 1, 2013	Friday, March 8, 2013
x	
x	
	x
	x +
x	12
x	

3. Click, hold, and drag the cells to the **desired location**.

F	G	
Friday, March 1, 2013	Friday, March 8, 2013	
x		
х 🔎		
	х	
	x	
x F4:F5		
x		

Release the mouse, and the cells will 4. be **dropped** in the selected location.

F	G
Friday, March 1, 2013	Friday, March 8, 2013
x	
x	
x	
x	
x	
x	

To use the fill handle:

There may be times when you need to copy the content of one cell to several other cells in your worksheet. You could copy and paste the content into each cell, but this method would be time consuming. Instead, you can use the fill handle to quickly copy and paste content to adjacent cells in the same row or column.

 Select the cell(s) containing the content you want to use. The fill handle will appear as a small square in the bottom-right corner of the selected cell(s).



 Click, hold, and drag the fill handle until all of the cells you want to fill are selected.

3.

D	E
Friday, March 01, 2013	Friday, March 08, 2013
x	
x	
x	
x	
	_
	x
+	5

D	E
Friday, March 01, 2013	Friday, March 08, 2013
x	
x	
x	
x	
x	
x	
x	
×	
x	
×	
x	
x	
x	
x	
x	

To continue a series with the fill handle:

The fill handle can also be used to **continue a series**. Whenever the content of a row or column follows a sequential order, like **numbers (1, 2, 3)** or **days (Monday, Tuesday, Wednesday)**, the fill handle can guess what should come next in the series. In many cases, you may need to select **multiple cells** before using the fill handle to help Excel determine the series order. In our example below, the fill handle is used to extend a series of **dates** in a column.

You can also **double-click** the fill handle instead of clicking and dragging. This can be useful with larger spreadsheets, where clicking and dragging may be awkward.

To use Flash Fill:

A new feature in Excel 2013, **Flash Fill** can enter data automatically into your worksheet, saving you time and effort. Just like the fill handle, **Flash Fill** can guess what type of information you're entering into your worksheet. In the example below, we'll use Flash Fill to create a list of **first names** using a list of existing **email addresses**.

- 1. Enter the desired information into your worksheet. A **Flash Fill preview** will appear below the selected cell whenever Flash Fill is available.
- 2. Press **Enter**. The Flash Fill data will be **added** to the worksheet.

	A	В	С	D
1	Email Address	Last Name	First Name	Friday, March 01, 2013
2	heidi.lee@vestainsurance.com	Lee	Heidi	x
з	josie.gates@vestainsurance.com	Gates	Josie	x
4	wendy.crocker@vestainsurance.com	Crocker	Wendy	E
5	loretta.johnson@vestainsurance.com	Johnson	Loretta	x
6	walter.rivera@vestainsurance.com	Rivera	Walter	x
7	misty.whitfield@vestainsurance.com	Whitfield	Misty	x
8	matilda.lewis@vestainsurance.com	Lewis	Matilda	x
9	elizabeth.hicks@vestainsurance.com	Hicks	Elizabeth	x
10	alvin.rios@vestainsurance.com	Rios	Alvin	x
11	brian.gaines@vestainsurance.com	Gaines	Brian	x

G	Н
Friday, March 01, 2013	
Friday, March 08, 2013	
	Friday, March 29, 2013
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

G	Н
Friday, March 01, 2013	
Friday, March 08, 2013	
Friday, March 15, 2013	
Friday, March 22, 2013	
Friday, March 29, 2013	
Friday, Warch 29, 2013	

	А	A B		D
1	Email Address	Last Name	First Name	Friday, March 01, 2013
2	heidi.lee@vestainsurance.com	Lee	Heidi	х
3	josie.gates@vestainsurance.com	Gates	Josie	х
4	wendy.crocker@vestainsurance.com	Crocker	Wendy	х
5	loretta.johnson@vestainsurance.com	Johnson	Loretta	x
6	walter.rivera@vestainsurance.com	Rivera	Walter	x
7	misty.whitfield@vestainsurance.com	Whitfield	Misty	х
8	matilda.lewis@vestainsurance.com	Lewis	Matilda	x
9	elizabeth.hicks@vestainsurance.com	Hicks	Elizabeth	x
10	alvin.rios@vestainsurance.com	Rios	Alvin	x
11	brian.gaines@vestainsurance.com	Gaines	Brian	x

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		А		В	С	D
	1	Email Address	Last	Name	First Name	Friday, March 01, 2013
	2	heidi.lee@vestainsurance.com	Lee		Heidi	x
To modify on unde Floch Fill	З	josie.gates@vestainsurance.com	Gate	s	Josie	x
To modify or undo Flash Fill,	4	wendy.crocker@vestainsurance.com	Croc	ker	Wendy	E .
click the Flash Fill button next to recently added Flash Fill data.	5	loretta.johnson@vestainsurance.com	5	 Undo Flash Fill Accept suggestions 		10
to recently added mash milli data.	6 7	walter.rivera@vestainsurance.com	5			
		misty.whitfield@vestainsurance.com	estainsurance.com			
	8	matilda.lewis@vestainsurance.com Select all 0 blank cells				
		elizabeth.hicks@vestainsurance.com		Select a	ll 76 <u>c</u> hanged ce	ells
Find and Replace	10	alvin.rios@vestainsurance.com	Rios		Alvin	x

Find and Replace

When working with a lot of data in Excel, it can be difficult and time consuming to locate specific information. You can easily search your workbook using the Find feature, which also allows you to modify content using the **Replace** feature.

To find content:

In our example, we'll use the Find command to locate a specific name in a long list of employees.

- From the Home tab, click the Find and Select command, then 1. select **Find...** from the drop-down menu.
- 2. The Find and Replace dialog box will appear. Enter the content you want to find. In our example, we'll type the employee's name.
- Click Find Next. If the content is found, the cell containing that 3. content will be **selected**.

1	Email Address	Last Name	First Name	Friday, March 01, 2013 Friday, March
2	heidi.lee@vestainsurance.com	100	Heidi	v
3	josie.gates@vestainsur	Fir	nd and Repla	ce ? ×
4	wendy.crocker@vestair	_		
5	loretta.johnson@vestaj Find Repla	ce		
6	walter.rivera@vestains Find what:	Russell		~
7	misty.whitfield@vestai			
8	matilda.lewis@vestain			
9	elizabeth.hicks@vestai			Op <u>t</u> ions >>
10	alvin.rios@vestainsura			
11	brian.gaines@vestainsu		Find All	Eind Next Close
12	megan.bosworth@vest			15
13	maria.menzies@vestainsurance.com	Menzies	Maria	x
14	micheal.russell@vestainsurance.com	Russell	Micheal	x
15	jimmy.lincoln@vestainsurance.com	Lincoln	Jimmy	x
16	martha.mccain@vestainsurance.com	McCain	Martha	x
17	chirlow knight@vostainsurance.com	Knight	Shirlow	v

When you are finished, click **Close** to exit the Find and 5. Replace dialog box.



Click **Find Next** to find further 4. instances or Find All to see every instance of the search term.

Fir	nd and F	Replace		? ×
Fin <u>d</u> Reglace				~
	Find /		<u>F</u> ind Next	Op <u>t</u> ions >> Close
Book	Sheet	Name	Cell	Value
Vesta Webinar Training Log.xlsx	March		\$A\$14	micheal.russell@ves
Vesta Webinar Training Log.xlsx	March		\$B\$14	Russell
<				>
2 cell(s) found				

Fir	nd and Repl	ace	? ×
Fin <u>d</u> Replace			v
	F <u>i</u> nd All	<u>F</u> ind Next	Options >>
Book	Sheet Na	me Cell	Value
Vesta Webinar Training Log.xlsx	March	\$A\$14	micheal.russell@ves
Vesta Webinar Training Log.xlsx	March	\$B\$14	Russell
<			>
2 cell(s) found			.:

You can also access the Find command by pressing Ctrl+F on your keyboard.

Click **Options** to see advanced search criteria in the Find and Replace dialog box.

Find and Re	place ? ×
Fin <u>d</u> Re <u>p</u> lace	
Fi <u>n</u> d what: Russell 🗸	No Format Set For <u>m</u> at ▼
Wit <u>h</u> in: Sheet Match <u>c</u> ase Search: By Rows Match entire	e cell c <u>o</u> ntents
Search: By Rows V Look in: Formulas V	Op <u>t</u> ions < <
F <u>i</u> nd Al	I <u>F</u> ind Next Close

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To replace cell content:

At times, you may discover that you've repeatedly made a mistake throughout your workbook (such as misspelling someone's name), or that you need to exchange a particular word or phrase for another. You can use Excel's **Find and Replace** feature to make quick revisions. In our example, we'll use Find and Replace to correct a list of email addresses.

- 1. From the **Home** tab, click the **Find and Select** command, then select **Replace...** from the drop-down menu.
- 2. The **Find and Replace** dialog box will appear. Type the text you want to find in the **Find what:** field.
- 3. Type the text you want to replace it with in the **Replace with**: field, then click **Find Next**.

Find and Replace ? ×
Fin <u>d</u> Replace
Find what: vestainsurance.com
Replace with: vestainsurance.net
Options >>
Replace <u>A</u> II <u>Replace</u> Find All <u>Find Next</u> Close

7. A dialog box will appear, confirming the number of replacements made. Click **OK** to continue.



8. The selected cell content will be **replaced**.

5	heidi.lee@vestainsur	ance	e.com	Lee	Heidi		
6	josie.gates@vestainsurance.com		Gates	Josie			
7	wendy.crocker@vesta	ainsu	urance.com	Crocker	Wendy		
8	loretta.johnson@vest	tains	urance.com	Johnson	Loretta		
9			Rivera	Walter			
10	misty.whitfield@vest	ains	urance.com	Whitfield	Misty		
11	matilda.lewis@vestai	insu	rance.com	Lewis	Matilon		
12	elizabeth.hicks@vest	5	heidi.lee@vestainsura	nce.net		Lee	Heidi
		6	josie.gates@vestainsu	rance.net		Gates	Josie
		7	wendy.crocker@vestai	nsurance.net		Crocker	Wendy
		8	loretta.johnson@vesta	insurance.ne	<u>t</u> 🦰	Johnson	Loretta
		9	walter.rivera@vestains	surance.net		Rivera	Walter
		10	misty.whitfield@vesta	insurance.ne	t	Whitfield	Misty
		11	matilda.lewis@vestainsurance.net		Lewis	Matilda	
		12	elizabeth.hicks@vesta	insurance.net		Hicks	Elizabeth



- 4. If the content is found, the cell containing that content will be **selected**.
- 5. **Review** the text to make sure you want to replace it.
- 6. If you want to replace it, select one of the **replace** options:
 - **Replace** will replace individual instances.
 - Replace All will replace every instance of the text throughout the workbook. In our example, we'll choose this option to save time.



Chapter-5 Modifying Columns, Rows, and Cells

Introduction

By default, every row and column of a new workbook is set to the same **height** and **width**. Excel allows you to modify column width and row height in different ways, including **wrapping text** and **merging cells**.

To modify column width:

In our example below, some of the content in column A cannot be displayed. We can make all of this content visible by changing the **width** of column A.

- Position the mouse over the column line in the column heading so the white cross becomes a double arrow #
- 2. Click, hold, and drag the mouse to **increase** or **decrease** the column width.

3.

H	18	Widt	:h: 10	.29 (77	pixels)	f _x
	А	+	→	В		С
1	First Na	Last	Nan	ıe		
2	Amanda	Rya	n			
З	Tricia	Mat	thev	/S		
4	Josefina	Woo	odar	d		
5						
6						

H	18 👻	: ×	$\sqrt{-f_x}$
	A +	→ B	С
1	First Name	Last Name	
2	Amanda	Ryan	
3	Tricia	Matthews	
4	Josefina	Woodard	
5			
6			

H	18	*	:	\times	~	f_{x}
	Α +	₽	В		С	
1	First Na	Last	Name	2		
2	Amanda	Ryar	n			
3	Tricia	Matt	hews	5		
4	Josefina	Woo	dard			
5						
6						

If you see **pound**

signs (########) in a cell, it means the column is not wide enough to display the cell content. Simply increase the column width to show the cell content.

To AutoFit column width:

The **AutoFit** feature will allow you to set a column's width to fit its content **automatically**.

- Double-click the mouse. The column width will be changed automatically to fit the content.

D1		÷×	$\sqrt{-f_x}$	Cell Phone					
	А	В	С	D +	→ E F				
1	First Name	Last Name	Position(s)	Cell Phone	Street Address				
2	Amanda	Ryan	Pitcher, Sec	513-555-4477	800 Round Table Drive				
3	Tricia	Matthews	Catcher	808-555-6397	4721 Arron Smith Drive				
4	Josefina	Woodard	Outfield	714-555-4506	2152 Liberty Avenue				

D1	L •	÷×	$\sqrt{-f_x}$	Cell Phone
	А	В	С	D ↔ E F G
1	First Name	Last Name	Position(s)	Cell Ph Street Address
2	Amanda	Ryan	Pitcher, Sec	513-55 800 Round Table Drive
3	Tricia	ia Matthews Catcher 808-5554721 Arron Smith Drive		
4	Josefina	Woodard	Outfield	714-55: 2152 Liberty Avenue

You can also AutoFit the width for several columns at the same time. Simply select the columns you want to AutoFit, then select the **AutoFit Column Width** command from the **Format** drop-down menu on the **Home** tab. This method can also be used for **row height**.



To modify row height:

- Position the cursor over the row line so the white cross becomes a double arrow .
- 2. Click, hold, and drag the mouse to **increase** or **decrease** the row height.

A	L 🔻	:	\times	V	f_{∞}	BullTea	m Roster:
-	A Height: 41.25 (55	i pixel	s) B		C	D	E
	Bull Team Ro	ster:	Co-ed S	oftba	all 201	3	
	First Name	Las	t Name	Cell	Phone	Street Ad	Position(
1	÷.						
2							
3							

A	A1 *		×	$\times \checkmark f_x$		m Roster:
	Α		В	С	D	E
1+	Bull Team Ro	ster:	Co-ed S	oftball 201	13	
2	First Name	Las	st Name	Cell Phon	Street Ad	Position(
3						

 Release the mouse. The **height** of the selected row will be changed.

1 Bull Team Roster: Co-ed Softball 2013

Ryan

Ross

Dizon

Grant

Last Name Cell Phone



 f_{x}

D

Street Address

513-555-4477 800 Round Table Drive

310-555-8862 3503 Prospect Valley Road

Matthews 808-555-6397 4721 Arron Smith Drive

607-555-7816 1483 Frosty Lane

914-555-5592 1663 Taylor Street

Woodard 714-555-4506 2152 Liberty Avenue

To modify all rows or columns:

Rather than resizing rows and columns individually, you can modify the height and width of every row and column at the same time. This method allows you to set a **uniform size** for every row and column in your worksheet. In our example, we will set a **uniform row height**.

- - 9 Mildred Persinger 601-555-0175 3329 Washington Avenue

H14

2 First Name

¢

3 Amanda

8 Mark

4 Tricia 5 Josefina

6 Rodney

7 Leigh

- 2. Position the mouse over a row line so the white cross Φ becomes a double arrow \pm .
- 3. Click, hold, and drag the mouse to **increase** or **decrease** the row height.

A	1 *	\cdot	√ <i>f</i> _× E	Bull Team Roster: Co-ed Softb		4.				en you are satisfied
	Α	В	С	D		V	with t	the new i	row heig	ht for the worksheet
					A	1	-	\pm \times	√ <i>f</i> _x E	ull Team Roster: Co-ed Soft
1	Bull Team Ros	ter: Co-ed S	oftball 2013				A	В	С	D
2	Height: 33.75 (45	nivels) Name	Cell Phone	Street Address	1	Bull Te	am Ro	ster: Co-ed S	ofthall 2013	
	Amanda	куап	513-555-4477	7 800 Round Table Drive	1	Duil le	annito	ster. co-eu s	01104112013	
3	Tricia	Matthews	808-555-6397	7 4721 Arron Smith Drive	2	First N	ame	Last Name	Cell Phone	Street Address
4	Josefina	Woodard	714-555-4506	6 2152 Liberty Avenue						
5	Rodney	Ross	310-555-8862	2 3503 Prospect Valley Road	3	Amano	la	Ryan	513-555-4477	800 Round Table Drive
6	Leigh	Dizon	607-555-7816	5 1483 Frosty Lane						
7	Mark	Grant	914-555-5592	2 1663 Taylor Street	4	Tricia		Matthews	808-555-6397	4721 Arron Smith Drive
					5	Josefir	na	Woodard	714-555-4506	i 2152 Liberty Avenue
					6	Rodne	y	Ross	310-555-8862	3503 Prospect Valley Road

Inserting, deleting, moving, and hiding rows and columns

After you've been working with a workbook for a while, you may find that you want to **insert new** columns or rows, **delete** certain rows or columns, **move** them to a different location in the worksheet, or even **hide** them.

To insert rows:

1. Select the **row heading** below where you want the new row to appear. For example, if you want to insert a row between rows 7 and 8, select row 8.

5	Neil	Crawford	908-555-2234	2312 Stonepot Road
6	Anthony	Keel	267-555-0144	533 Spring Avenue
7	Ray	Logan	256-555-2475	2439 Ritter Street
9	Tricia	Matthews	808-555-6397	4721 Arron Smith Drive
9	Leola	McNew	580-555-8177	2182 Cody Ridge Road
10	Joshua	Milliman	213-555-1117	2166 Zimmerman Lane

- 2. Click the **Insert** command on the **Home** tab.
- 3. The **new row** will appear **above** the selected row.

5	Neil	Crawford	908-555-2234	2312 Stonepot Road
6	Anthony	Keel	267-555-0144	533 Spring Avenue
7	Ray	Logan	256-555-2475	2439 Ritter Street
8				
8 9	💉 cia	Matthews	808-555-6397	4721 Arron Smith Drive

click the drop-down arrow.



When inserting new rows, columns, or cells, you

will see the **Insert Options** button inserted cells. This button allows you to choose how Excel formats these cells. By default, Excel formats inserted rows with the same

formatting as the cells in the row above. To access more options, hover your mouse over the **Insert Options** button, then

F						
5	r					
۲	Format Same As <u>L</u> eft					
0	Format Same As <u>R</u> ight					
0	Clear Formatting					

D	∔ E	F
Street Address	Position(s)	
800 Round Table Drive	Pitcher, Second base	
4721 Arron Smith Drive	Catcher	
2152 Liberty Avenue	Outfield	
8503 Prospect Valley Road	First base	
1483 Frosty Lane	Third base	
1663 Taylor Street	Shortstop	
3329 Washington Avenue	First base, pitcher	
1736 Broad Street	DH	
2937 Earnhardt Drive	Second base	
232 Timber Oak Drive	Right field	
4072 Nelm Street	Third Base	
2182 Cody Ridge Road	Pitcher	
1001 Cerullo Road	Second base	

To insert columns:

1. Select the **column heading** to the right of where you want the new column to appear. For example, if you want to insert a column between columns D and E, select column E.

3.

2. Click the **Insert** command on the **Home** tab.

Cell Styles •	Insert	*	Format	∑ - ↓ - ∢ -	Filter -	Find & Select •			
		Cells Editing							
	Insert Cells								
		new cells workboo	s, rows or ok.	columi	ns to				
	colun rows	FYI: To insert multiple rows or columns at a time, select multiple rows or columns in the sheet, and click Insert.							
	0 T	ell me r	nore						

When inserting rows and columns, make sure you select the entire row or column by clicking the **heading.** If you select only a cell in the row or column, the **Insert** command will only insert a new cell.

To delete rows:

It's easy to **delete** any row that you no longer need in your workbook.

- Select the row(s) you want to delete. In our example, we'll select rows 6-8.
- 2. Click the **Delete** command on the **Home** tab.



D	E	F
		*
Street Address		Position(s)
800 Round Table Drive		Pitcher, Second base
4721 Arron Smith Drive		Catcher
2152 Liberty Avenue		Outfield
3503 Prospect Valley Road		First base
1483 Frosty Lane		Third base
1663 Taylor Street		Shortstop
3329 Washington Avenue		First base, pitcher
1736 Broad Street		DH
2937 Earnhardt Drive		Second base
232 Timber Oak Drive		Right field
4072 Nelm Street		Third Base
2182 Cody Ridge Road		Pitcher
1001 Cerullo Road		Second base
9 Tenmile Road		Third base
1386 Patterson Street		Outfield, catcher
3990 Pretty View Lane		Left field

5	Josefina	Woodard	714-555-4506	2152 Liberty Avenue
6	Rodney	Ross	310-555-8862	3503 Prospect Valley Road
7	Leigh	Dizon	607-555-7816	1483 Frosty Lane
8-	Mark	Grant	914-555-5592	1663 Taylor Street
9	Mildred	Persinger	601-555-0175	3329 Washington Avenue
10	Dwayne	Patnode	205-555-3783	1736 Broad Street
11	Bonnie	Benjamin	502-555-1212	2937 Earnhardt Drive



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 The selected row(s) will be deleted, and the rows below will shift up. In our example, rows 9-11 are now rows 6-8.

5	Josefina	Woodard	714-555-4506	2152 Liberty Avenue
6	Mildred	Persinger	601-555-0175	3329 Washington Avenue
7	Dwayne	Patnode	205-555-3783	1736 Broad Street
8	Bonnie	Benjamin	502-555-1212	2937 Earnhardt Drive
9	Eva	Ramer	805-555-8514	232 Timber Oak Drive
10	Carol	Pena	571-555-0704	4072 Nelm Street
11	Leola	McNew	580-555-8177	2182 Cody Ridge Road

To delete columns:

1. Select the **columns(s)** you want to delete. In our example, we'll select **column E**.

D	E +	F
Street Address	Zip Code	Position(s)
800 Round Table Drive	27606	Pitcher, Second base
4721 Arron Smith Drive	27704	Catcher
2152 Liberty Avenue	27615	Outfield
3329 Washington Avenue	27513	First base, pitcher
1736 Broad Street	27613	DH
2937 Earnhardt Drive	27606	Second base
232 Timber Oak Drive	27704	Right field
4072 Nelm Street	27615	Third Base
2182 Cody Ridge Road	27513	Pitcher
1001 Cerullo Road	27613	Second base
9 Tenmile Road	27606	Third base
1386 Patterson Street	27704	Outfield, catcher
3990 Pretty View Lane	27615	Left field
533 Spring Avenue	27513	Shortstop, pinch runner
2723 Nelm Street	27613	Left field, Center field

It's important to understand the difference between **deleting** a row or column and simply **clearing its contents**. If you want to remove the **content** of a row or column without causing others to shift, right-click a **heading**, then select **Clear Contents** from the drop-down menu.

10	Rodney	Ro		0-555-8862	
11	Leigh	8	Cut	55-7816	
12	Mark	6	Copy	55-5592	
13	Mildred	16	Paste Options:	55-0175	
14	Dwayne		ĥ	55-3783	
15	Bonnie			55-1212	
16	Eva		Paste Special	55-8514	
17	Carol		Insert	55-0704	
18	Leola		Delete	55-8177	
19	Annie		Clear Contents	55-0190	
20	Joe 🧹	-	Clear Co <u>n</u> tents	55-9659	
21	Josephine		Eormat Cells	55-6401	
22	Nicole	9	Josefina	Woodard	714-555-4506
23	Anthony	1	0		
24	Sally	1	1		
25	Joshua		2		
26	Ray	(1	3 Mildred	Persinger	601-555-0175
		1	4 Dwayne	Patnode	205-555-3783
		1	5 Bonnie	Benjamin	502-555-1212
		1	6 Eva	Ramer	805-555-8514
		1	7 Carol	Pena	571-555-0704

2. Click the **Delete** command on the **Home** tab.

Cell Styles •	lnsert	Delete	Format	∑ - ↓ - ∢ -	Sort & Find & Filter • Select •	
		Cells			Editing	
		Delete Cells				
н		Delete cells, rows, columns, or sheets from your workbook.				
		colun rows		ime, sel	e rows or ect multiple e sheet, and	

 The selected columns(s) will be deleted, and the columns to the right will shift left. In our example, Column F is now Column E.

D	E +
Street Address	Position(s)
800 Round Table Drive	Pitcher, Second base
4721 Arron Smith Drive	Catcher
2152 Liberty Avenue	Outfield
3329 Washington Avenue	First base, pitcher
1736 Broad Street	DH
2937 Earnhardt Drive	Second base
232 Timber Oak Drive	Right field
4072 Nelm Street	Third Base
2182 Cody Ridge Road	Pitcher
1001 Cerullo Road	Second base
9 Tenmile Road	Third base
1386 Patterson Street	Outfield, catcher
8990 Pretty View Lane	Left field
533 Spring Avenue	Shortstop, pinch runner
2723 Nelm Street	Left field, Center field

To move a row or column:

Sometimes you may want to **move** a column or row to rearrange the content of your worksheet. In our example we'll move a column, but you can move a row in the same way.

 Select the desired column heading for the column you want to move, then click the Cut command on the Home tab or press Ctrl+X on your keyboard.



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- Select the column heading to the right of where you want to move the column. For example, if you want to move a column between columns B and C, select column C.
- Click the Insert command on the Home tab, then select Insert Cut Cells from the dropdown menu.



 The column will be **moved** to the selected location and the columns to the right will **shift right**.

X	l 🖯 🕹 -	e - 6	Ŧ			
F	ILE HOI	ME INSEF	RT PAGE LAYOUT	FORMULAS	DATA REVIE	W VIEW
	Cut	-	Calibri - 11			
Pa	ste 💉 Form	at Painter	B I U -	<u>></u> - <u>A</u> - ≡	≡≡ €€	🖶 Merge & Center 🔹
	Clipboard	rs.	Font	r _a	Alignn	nent 5
C1	$C1$ $$: $\times \sqrt{f_x}$					
	А	В	С	D	E	F
1	Bull Team F	loster: Co-e	l Softball 2013			
2	First Name	Last Name	Position(s)	Cell Phone	Street Address	
3	Amanda	Ryan	Pitcher, Second base	513-555-4477	800 Round Table	Drive
4	Tricia	Matthews	Catcher	808-555-6397	4721 Arron Smith	n Drive
5	Josefina	Woodard	Outfield	714-555-4506	2152 Liberty Ave	nue
6	Rodney	Ross	First base	310-555-8862	3503 Prospect Va	alley Road

27 🚺 🔒 🐬 🖉 Ğ, Ŧ Bulls Sotfball Team Roste FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW X • 11 • A A = = * Calibri General Paste в *I* Ц - Ш - <u>⊘</u> - <u>А</u> - ≡ = = ∈ + ≡ ⊟ -\$ - % , .0 .00 **_** Clipboard 🗔 Font Б Alignme Numbe **C1** f_{x} t C D ٨ 1 Bull Team Roster: Co-el Softball 201 2 First Name Last Name Cell Phone Street Address Position(s) 3 Amanda Ryan 513-555-4477 800 Round Table Drive itcher, Second base 4 Tricia Matthews 808-555-6397 4721 Arron Smith Drive Catcher 5 Josefina Woodard 714-555-4506 2152 Liberty Avenue Outfield 310-555-8862 3503 Prospect Valley Road First base lodn Ross

You can also access the **Cut** and **Insert** commands by right-clicking the mouse and then selecting the **desired commands** from the drop-down menu.

D		E	
Softball 2013	Ж	Cut	
Street Address	Ē	<u>С</u> ору	
800 Round Table	ĥ	Paste Options:	base
4721 Arron Smit		(A)	
2152 Liberty Ave			
3329 Washingto		Paste Special	er
1736 Broad Stre		Insert Cut Cells	
2937 Earnhardt I		=	
232 Timber Oak		<u>D</u> elete	
4072 Nelm Stree		Clear Contents	
2182 Cody Ridge	*	Format Cells	
1001 Cerullo Ro	0-	—	
9 Tenmile Road		<u>C</u> olumn Width	
1386 Patterson :		<u>H</u> ide	r
3990 Pretty Viev		<u>U</u> nhide	

To hide and unhide a row or column:

At times, you may want to **compare** certain rows or columns without changing the organization of your worksheet. Excel allows you to **hide** rows and columns as needed. In our example, we'll hide columns C and D to make it easier to compare columns A, B, and E.

- Select the column(s) you want to hide, rightclick the mouse, then select Hide from the formatting menu.
- 2. The columns will be **hidden**. The **green column line** indicates the location of the hidden columns.

_	A	В	С	D	Ж	Cut	
1	First Name	Last	Cell Phone	Street Address	_		
2	Amanda	Ryan	513-555-4477	800 Round Table I	1	<u>C</u> opy	_
3	Tricia	Matthews	808-555-6397	4721 Arron Smith	Ē	Paste Options:	
4	Josefina	Woodard	714-555-4506	2152 Liberty Aver		ĥ	
5	Rodney	Ross	310-555-8862	3503 Prospect Val		Paste Special	
6	Leigh	Dizon	607-555-7816	1483 Frosty Lane		-	
7	Mark	Grant	914-555-5592	1663 Taylor Stree		Insert	
8	Mildred	Persinger	601-555-0175	3329 Washington		<u>D</u> elete	
9	Dwayne	Patnode	205-555-3783	1736 Broad Street		Clear Contents	
10	Bonnie	Benjamin	502-555-1212	2937 Earnhardt Dr	* 0	Format Cells	
11	Eva	Ramer	805-555-8514	232 Timber Oak D	0-	-	
12	Carol	Pena	571-555-0704	4072 Nelm Street		<u>C</u> olumn Width	
13	Leola	McNew	580-555-8177	2182 Cody Ridge I		Hide	
14	Annie	Muro	502-555-0190	1001 Cerullo Road		<u>U</u> nhide	
15	Joe	Rodriguez	781-555-9659	9 Tenmile Road		Third base	

	A	В	E
1	First Name	Last	Position(s)
2	Amanda	Ryan	Pitcher, Second base
3	Tricia	Matthews	Catcher
4	Josefina	Woodard	Outfield
5	Rodney	Ross	First base
6	Leigh	Dizon	Third base
7	Mark	Grant	Shortstop
8	Mildred	Persinger	First base, pitcher
9	Dwayne	Patnode	DH
10	Bonnie	Benjamin	Second base
11	Eva	Ramer	Right field
12	Carol	Pena	Third Base
13	Leola	McNew	Pitcher
14	Annie	Muro	Second base
15	Joe	Rodriguez	Third base

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- To unhide the columns, select the columns to the left and right of the hidden columns (in other words, the columns on **both sides** of the hidden columns). In our example, we'll select columns B and E.
- Right-click the mouse, then select **Unhide** from the **formatting** menu. The hidden columns will reappear.

	А	В	E	v	G
1	First Name	Last Name	Position(s)	Ж	Cu <u>t</u>
2	Amanda	Ryan	Pitcher, Second	Ē	Copy
3	Tricia	Matthews	Catcher	ĥ	Paste Options:
4	Josefina	Woodard	Outfield		
5	Rodney	Ross	First base		
6	Leigh	Dizon	Third base		Paste Special
7	Mark	Grant	Shortstop		Insert
8	Mildred	Persinger	First base, pitche		Delete
9	Dwayne	Patnode	DH		_
10	Bonnie	Benjamin	Second base		Clear Contents
11	Eva	Ramer	Right field	8 0	Format Cells
12	Carol	Pena	Third Base	_	Column Width
13	Leola	McNew	Pitcher		_
14	Annie	Muro	Second base		Hide
15	Joe	Rodriguez	Third base		Unhide
16	Josephine	Carter	Outfield, catche	r	15

Wrapping text and merging cells

Whenever you have too much cell content to be displayed in a single cell, you may decide to **wrap the text** or **merge** the cell rather than resize a column. Wrapping the text will automatically modify a cell's **row height**, allowing cell contents to be displayed **on multiple lines**. Merging allows you to combine a cell with adjacent empty cells to create **one large cell**.

To wrap text in cells:

In our example below, we'll wrap the text of the cells in column D so the entire address can be displayed.

1. Select the cells you want to wrap. In this example, we'll select the cells in **column D**.

	А	В	С	D	E
1	Bull Team Ro	ster: Co-ed S	oftball 2013		
2	First Name	Last Name	Cell Phone	Street Addres	Position(s)
3	Amanda	Ryan	513-555-4477	800 Round Tak	Pitcher, Second base
4	Tricia	Matthews	808-555-6397	4721 Arron Sm	Catcher
5	Josefina	Woodard	714-555-4506	2152 Liberty A	Outfield
6	Mildred	Persinger	601-555-0175	3329 Washing	First base, pitcher
7	Dwayne	Patnode	205-555-3783	1736 Broad Str	DH
8	Bonnie	Benjamin	502-555-1212	2937 Earnhard	Second base
9	Eva	Ramer	805-555-8514	232 Timber Oa	Right field
10	Carol	Pena	571-555-0704	4072 Nelm Str	Third Base
11	Leola	McNew	580-555-8177	2182 Cody Rid	Pitcher
12	Annie	Muro	502-555-0190	1001 Cerullo R	Second base
13	Joe	Rodriguez	781-555-9659	9 Tenmile Roa	Third base

2. Select the **Wrap Text** command on the **Home** tab.



3. The text in the selected cells will be **wrapped**.

	А	В	С	D	E
			61 H		
1	Bull Team Ros	ter: Co-ed S	oftball 2013		
				Street	
2	First Name	Last Name	Cell Phone	Address	Position(s)
				800 Round	
3	Amanda	Ryan	513-555-4477	Table Drive	Pitcher, Second base
				4721 Arron	
4	Tricia	Matthews	808-555-6397	Smith Drive	Catcher
				2152 Liberty	
5	Josefina	Woodard	714-555-4506	Avenue	Outfield
				3329	
				Washington	
6	Mildred	Persinger	601-555-0175	Avenue	First base, pitcher

Click the Wrap Text command again to unwrap the text.

To merge cells using the Merge & Center command:

In our example below, we'll merge cell A1 with cells B1:E1 to create a title heading for our worksheet.

1. Select the **cell range** you want to merge.

A1	A1 • : × ✓ fx Bulls Team Roster: Co-ed Softball 2013				-ed Softball 2013
	Α	В	C	D	E
1	loster: Co-ed	Softball 201	3		¢
2	First Name	Last Name	Cell Phone	Street Address	Position(s)
3	Amanda	Ryan	513-555-4477	800 Round Table Drive	Pitcher, Second base
4	Tricia	Matthews	808-555-6397		Catcher
5	Josefina	Woodard	714-555-4506	2152 Liberty Avenue	Outfield

2. Select the **Merge & Center** command on the **Home** tab.



3. The selected cells will be **merged**, and the text will be **centered**.

A	1 *	÷×	√ <i>f</i> _x B	f* Bulls Team Roster: Co-ed Softball 2013			
	Α	В	С	D	E	F	
1		Bu	lis Team Roste	r: Co-ed Softball 2)13		
2	First Name	Last Name	Cell Phone	Street Address	Position(s)		
				800 Round Table			
3	Amanda	Ryan	513-555-4477	Drive	Pitcher, Second base		
				4721 Arron Smith			
4	Tricia	Matthews	808-555-6397	Drive	Catcher		
				2152 Liberty			
5	Josefina	Woodard	714-555-4506	Avenue	Outfield		

To access more merge options:

Click the drop-down arrow next to the **Merge & Center** command on the **Home** tab. The **Merge** drop-down menu will appear. From here, you can choose to:

- Merge & Center: Merges the selected cells into one cell and centers the text
- Merge Across: Merges the selected cells into larger cells while keeping each row separate
- Merge Cells: Merges the selected cells into one cell but does not center the text
- Unmerge Cells: Unmerges selected cells

	/lerge & Center 🔫
÷	Merge & <u>C</u> enter
-	Merge <u>A</u> cross
	Merge Cells
	Unmerge Cells

Chapter-6 Formatting Cells

Introduction

All cell content uses the same **formatting** by default, which can make it difficult to read a workbook with a lot of information. Basic formatting can customize the **look and feel** of your workbook, allowing you to draw attention to specific sections and making your content easier to view and understand. You can also apply **number formatting** to tell Excel exactly what type of data you're using in the workbook, such as percentages (%), currency (\$), and so on.

To change the font:

By default, the font of each new workbook is set to Calibri. However, Excel provides many other fonts you can use to customize your cell text. In the example below, we'll format our **title cell** to help distinguish it from the rest of the worksheet.

- 1. Select the **cell(s)** you want to modify.
- Click the drop-down arrow next to the Font command on the Home tab. The Font drop-down menu will appear.
- 3. Select the desired **font**. A **live preview** of the new font will appear as you hover the mouse over different options. In our example, we'll choose **Georgia**.



4. The text will change to the **selected font**.

	A	В
1	Webinar Training Log	
2	Email Address	Last Name
3	heidi.lee@vestainsurance.com	Lee
4	josie.gates@vestainsurance.com	Gates

When creating a workbook in the workplace, you'll want to select a font that is easy to read. Along with Calibri, standard reading fonts include Cambria, Times New Roman, and Arial.

To change the font size:

- 1. Select the **cell(s)** you want to modify.
- Click the drop-down arrow next to the Font Size command on the Home tab. The Font Size dropdown menu will appear.

	А	В
1	Webinar Training Log 🗘	
2	Email Address	Last Name
з	heidi.lee@vestainsurance.com	Lee
4	josie.gates@vestainsurance.com	Gates

3. Select the desired **font size**. A **live preview** of the new font size will appear as you hover the mouse over different options. In our example, we will choose **16** to make the text **larger**.

4.



The text will change to the **selected font size**.

	A	В
1	Webinar Training Log	
2	Email Address	Last Name
3	heidi.lee@vestainsurance.com	Lee
4	josie.gates@vestainsurance.com	Gates

	Α	В
1	Webinar Training Log 🗘	
2	Email Address	Last Name
3	heidi.lee@vestainsurance.com	Lee
4	josie.gates@vestainsurance.com	Gates

You can also use the **Increase Font Size** and **Decrease Font Size** commands or enter a **custom font size** using your keyboard.



To change the font color:

- 1. Select the **cell(s)** you want to modify.
- Click the drop-down arrow next to the Font Color command on the Home tab. The Color menu will appear.

	A	В
1	Webinar Training Log 다	
2	Email Address	Last Name
з	heidi.lee@vestainsurance.com	Lee
4	josie.gates@vestainsurance.com	Gates

3. Select the desired **font color**. A **live preview** of the new font color will appear as you hover the mouse over different options. In our example, we'll choose **Green**.



4. The text will change to the **selected font color**.

	A	В
1	Webinar Training Log	
2	Email Address	Last Name
3	heidi.lee@vestainsurance.com	Lee
4	josie.gates@vestainsurance.com	Gates

Select **More Colors** at the bottom of the menu to access additional color options.



To use the Bold, Italic, and Underline commands:

1. Select the **cell(s)** you want to modify.

 A
 B

 1
 Webinar Training Log
 Description

 2
 Email Address
 Last Name

 3
 heidi.lee@vestainsurance.com
 Lee

 4
 josie.gates@vestainsurance.com
 Gates

3. The **selected style** will be applied to the text.



 Click the Bold (B), Italic (I), or Underline (U) command on the Home tab. In our example, we'll make the selected cells **bold**.



You can also press **Ctrl+B** on your keyboard to make selected text **bold**, **Ctrl+I** to apply **italics**, and **Ctrl+U**to apply an **underline**.

Text alignment

By default, any text entered into your worksheet will be aligned to the bottom-left of a cell, while any numbers will be aligned to the bottom-right. Changing the alignment of your cell content allows you to choose how the content is displayed in any cell, which can make your cell content easier to read.

To change horizontal text alignment:

In our example below, we'll modify the alignment of our title cell to create a more polished look and further distinguish it from the rest of the worksheet.

- Select the **cell(s)** you want to modify. 1.
- 2. Select one of the three **horizontal** alignment commands on the Home tab. In our example, we'll choose Center Align.



ne

$\equiv = & \text{ Wrap Text} \qquad 3. \text{The text will realign.}$	
🚍 🚍 🔄 🖅 🖾 Merge & Center 👻	
Alignment 3 Webinar Training Log	
g Log Center Center your content. 4 Email Address Las	st Nam
5 heidi.lee@vestainsurance.com	e
6 josie.gates@vestainsurance.com Ga	ites

To change vertical text alignment:

- Select the **cell(s)** you want to modify. 1.
- Select one of the three **vertical** 2. alignment commands on the Home tab. In our example, we'll choose Middle Align.

3	Webinar Training Log 우	
4	Email Address	Last Name
5	heidi.lee@vestainsurance.com	Lee
6	josie.gates@vestainsurance.com	Gates

» 😽 Wrap Text = 🔄 🖅 🗮 Merge & Center Alignment Middle Align Log Align text so that it is centered between the top and bottom of the В cell.

The text will realign.

3.

3

4

5

Webinar Training Log	
Email Address	Last Name
heidi.lee@vestainsurance.com	Lee
josie.gates@vestainsurance.com	Gates

ou can pply **both** vertic and horizontal ianment ettings to any ell.

Cell borders and fill colors

Cell borders and fill colors allow you to create clear and defined boundaries for different sections of your worksheet. Below, we'll add cell borders and fill color to our header cells to help distinguish them from the rest of the worksheet.

To add a border:

- Select the cell(s) you want to 1. modify.
- 2. Click the **drop-down arrow** next to the Borders command on the Home tab. The Borders dropdown menu will appear.

3	Webinar Training Log		
3			
4	Email Address	Last Name	First Name
5	heidi.lee@vestainsurance.com	Lee	Heidi
6	iosie.gates@vestainsurance.com	Gates	Josie

- 3. Select the **border style** you want to use. In our example, we will choose to display **All Borders**.
- 4. The **selected border style** will appear.

3	Webinar Training Log		
4	Email Address	Last Name	First Name
5	heidi.lee@vestainsurance.com	Lee	Heidi
6	josie.gates@vestainsurance.com	Gates	Josie

	b b	Cali	bri		-	l1 · A A	= = =	* -
Pa	ste 💉	в	I	<u>u</u> -		· 🕭 - 🗛 -	$\equiv \equiv \equiv$	€≣∄≣
Cli	pboard 🗔			F	Bor	ders		ig
	_	_				B <u>o</u> ttom Border		-
A	2	*	1	×		To <u>p</u> Border		_
						<u>L</u> eft Border		
						<u>R</u> ight Border		
	We	bir	1 a	r Tr		<u>N</u> o Border		
1					. 🖽	All Borders	Ν	_
2	Email Add	dress				Outside Border	s log	
3	heidi.lee	@ve	stai	nsuran		Thick Box Bord	er	
4	josie.gate	es@v	est	ainsura				

You can draw borders and change the **line style** and **color** of borders with the **Draw Borders** tools at the bottom of the Borders drop-down menu.



To add a fill color:

1. Select the **cell(s)** you want to modify.

3	Webinar Training Log		
4	Email Address	Last Name	First Name
5	heidi.lee@vestainsurance.com	Lee	Heidi
		Gates	Josie

4. The **selected fill color** will appear in the selected cells.

3	Webinar Training Log		
4	Email Address	Last Name	First Name
5	heidi.lee@vestainsurance.com	Lee	Heidi
6	josie.gates@vestainsurance.com	Gates	Josie

- Click the drop-down arrow next to the Fill Color command on the Home tab. The Fill Color menu will appear.
- Select the fill color you want to use. A live preview of the new fill color will appear as you hover the mouse over different options. In our example, we'll choose Light Green.



Format Painter

If you want to copy formatting from one cell to another, you can use the **Format Painter** command on the **Home** tab. When you click the Format Painter, it will copy all of the formatting from the selected cell. You can then **click and drag** over any cells you want to paste the formatting to.



Cell styles

Instead of formatting cells manually, you can use Excel's predesigned cell styles. Cell styles are a quick way to include professional formatting for different parts of your workbook, such as titles and headers.

3

To apply a cell style:

In our example, we'll apply a new cell style to our existing title and header cells.

Select the **cell(s)** you want to modify. 1.

you want to mouny.	4	Email Address	Last Name	First Nam
	5	heidi.lee@vestainsurance.com	Lee	Heidi
les command on	6	josie.gates@vestainsurance.com	Gates	Josie
n choose the desired style fro	m	the drop-down menu. In our example, w	re'll	

Webinar Training Log

Click the Cell Style 2. the Home tab, then Э pp ipie, choose Accent 1.

Conditional Format as ormatting * Table * Good, Bad and Ne	Gell Insert I Styles ▼ ▼	Delete Format		k Find & Select +	
Normal	Bad	Good	Neutral		
Data and Model					
Calculation	Check Cell	Explanatory	Hyperlink	Input	Linked Cell
Note	Output	Warning Text			
Titles and Headin	gs				
Heading 1	Heading 2	Heading 3	Heading 4	Title	Total
Themed Cell Style	es				
20% - Accent1	20% - Accent2	20% - Accent3	20% - Accent4	20% - Accent5	20% - Accent6
40% - Accent1	40% - Accent2	40% - Accent3	40% - Accent4	40% - Accent5	40% - Accent6
60% - Accent1	60% - Accent2	60% - Accent3	60% - Accent4	60% - Accent5	60% - Accent6
Accent1	Accent2	Accent3	Accent4	Accent5	Accent6

The selected cell style will 3. appear.

	Webinar Training Log		
3			
4	Email Address	Last Name	First Name
5	heidi.lee@vestainsurance.com	Lee	Heidi
6	josie.gates@vestainsurance.com	Gates	Josie

More Number Formats

Applying a cell style will **replace** any existing cell formatting except for text alignment. You may not want to use cell styles if you've already added a lot of formatting to your workbook.

Formatting text and numbers

1.

2.

3.

4.

One of the most powerful tools in Excel is the ability to apply **specific formatting** for text and numbers. Instead of displaying all cell content in exactly the same way, you can use formatting to change the appearance of dates, times, decimals, percentages (%), currency (\$), and much more.

To apply number formatting:

In our example, we'll change the **number** format for several cells to modify the way **dates** are displayed.

ay dates are dis	splaved.							
	, cu.		3/1/2013	3/8/2013	3/15/2013	3/2	22/2013	3/29/2013
Select the c	cells(s) you wan	t to modify.	х	x				
					Γ	Text		·
						ABC 123	General No speci	fic format
		next to the Nur Formatting drop			on	12	Number 41334.00	
							Currency \$41,334.0	
Select the desired formatting option . In our example, we will change the formatting to Long Date .							Account \$41,334.0	
5	5	e to the new fo	matting style	Forsome	number		Short Da 3/1/2013	
	5	Increase Deci	/		indifficer		Long Dat Friday, M	te Iarch 01, 2013
	Decimal commands (below the Number Format command) to change the numbe of decimal places that are displayed.							AM
or decimal pla		playeu.				%	Percenta 4133400.0	
						1/2	Fraction 41334	
riday, March 01, 2013	Friday, March 08, 2013	Friday, March 15, 2013	Friday, March 22, 2	013 Friday, Marc	h 29, 2013	10 ²	Scientifi 4.13E+04	
	x					ABC	Text 41334	

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Chapter-7 Worksheet Basics

Introduction

Every workbook contains at least one **worksheet** by default. When working with a large amount of data, you can create **multiple worksheets** to help organize your workbook and make it easier to find content. You can also **group** worksheets to quickly add information to multiple worksheets at the same time.

To rename a worksheet:

Whenever you create a new Excel workbook, it will contain **one worksheet** named **Sheet1**. You can rename a worksheet to better reflect its content. In our example, we will create a training log organized **by month**.

1. Right-click the **worksheet** you want to rename, then select **Rename** from the **worksheet** menu.



Insert...

Rename

Move or Copy...

Delete

2. Type the **desired name** for the worksheet.

34			
35			
36			
37			
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	•	Januar	+

 Click anywhere outside of the worksheet, or press Enter on your keyboard. The worksheet will be renamed.



F2	• • • · · · · · · · · · · · · · · · · ·	
	А	В
1	Webinar Training Log: January	
2	Email Address	First Name
з	JaredBLedbetter@vestainsurance.net	Jared
4	BeverlyJKelly@vestainsurance.net	Beverly
5	BernadetteRKorth@vestainsurance.net	Bernadette
	January	
RE4	ADY New sheet	

To insert a new worksheet:

Г

1. Locate and select the **New sheet** button.

2. A **new blank worksheet** will appear.

A	1	• :	$\times \checkmark$	f_{x}
	Α	В	С	D
1				
2		Ī		
3				
4				
5				
6				
	4 F	Janu	ary Shee	t2 (+)

To change the **default number** of worksheets, navigate to **Backstage view**, click **Options**, then choose the desired number of worksheets to include in each new workbook.

	Excel Options	?	×
General Formulas	General options for working with Excel.		
Proofing User Interface options			
Save Language Advanced Customize Ribbon	 Show <u>M</u>ini Toolbar on selection ① Show Quick Analysis options on selection Enable Live Preview ③ ScreenTip style: Show feature descriptions in ScreenTips 	*	
Quick Access Toolbar	When creating new workbooks		
Add-Ins Trust Center	Use this as the default font: Font size: Default view for new sheets: Include this many sheets: Normal View	~	~
	ОК	Car	ncel



To delete a worksheet:

- 1. Right-click the worksheet you want to delete, then select **Delete** from the worksheet menu.
- The worksheet will be **deleted** from your 2. workbook.

20	4	Þ	Januar	v (-
37					
36					
35					
34					





desired worksheet and then selecting Protect sheet from the worksheet menu.

or deleted, you can protect them by right-clicking the

To copy a worksheet:

If you need to **duplicate** the content of one worksheet to another, Excel allows you to **copy** an existing worksheet.

- Right-click the worksheet you want to copy, then select **Move or** 1. Copy from the worksheet menu.
- The **Move or Copy** dialog box will appear. Choose where the 2. sheet will appear in the Before sheet: field. In our example, we'll choose (move to end) to place the worksheet to the right of the existing worksheet.

4.

3. Check the box next to Create a copy, then click OK.



- Clipboard 5 Insert... × Delete G4 Rename Move or Copy... 1 Webinar Training 0 View Code 2 Email Address Protect Sheet.. 3 JaredBLedbetter@ Þt Tab Color Þ 4 BeverlyJKelly@ve Hide 5 BernadetteRKorth n 6 GaryVSmith@ves Select All Sheets January (+)
- The worksheet will be **copied**. It will have the same title as the original worksheet, as well as a version number. In our example, we copied the **Januarv** worksheet, so our new worksheet is named January (2). All content from the January worksheet has also been copied to the January (2) worksheet.

-	$G4 \mathbf{v} \vdots \mathbf{X} \mathbf{\sqrt{f_x}}$						
	A	В	С	D			
1	Webinar Training Log: January						
2	Email Address	First Name	Last Name	Webinar Completed			
3	JaredBLedbetter@vestainsurance.net	Jared	Ledbetter	x			
4	BeverlyJKelly@vestainsurance.net	Beverly	Kelly	x			
5	BernadetteRKorth@vestainsurance.net	Bernadette	Korth	x			
6	GaryVSmith@vestainsurance.net	Gary	Smith	x			
You can also copy a worksheet to an entirely different **workbook**. You can select any workbook that is currently open from the **To book:** drop-down menu.

Move or Copy ? Move selected sheets To book: Vesta Webinar Log.xlsx Vesta Webinar Log.xlsx Vesta Webinar Log.xlsx Vesta Quartery Sales.xlsx Vesta Safety Regulations.xlsx Create a copy OK

To move a worksheet:

Sometimes you may want to **move** a worksheet to rearrange your workbook.

- 1. Select the **worksheet** you want to move. The
 - cursor will become a **small worksheet** icon
- 3. Release the mouse. The worksheet will be **moved**.





To change the worksheet tab color:

You can change a worksheet tab's **color** to help organize your worksheets and make your workbook easier to navigate.

- Right-click the desired worksheet tab, and hover the mouse over **Tab Color**. The **Color** menu will appear.
- Select the desired color. A live preview of the new worksheet tab color will appear as you hover the mouse over different options. In our example, we'll choose Red.
- 3. The worksheet tab color will be **changed**.

34												
35												
36												
37												
00												
	4	F	Januar	y	Febru	lary	Ma	rch	Арі	ril	(Ð

26 Insert... 27 28 Delete 29 Rename 30 Move or Copy... Theme Colors 31 View Code 32 Protect Sheet.. 33 34 <u>T</u>ab Color 35 <u>H</u>ide 36 Standard Colors 37 Select All Sheets 20 Color February January March April Red wore Colors... READY

The worksheet tab color is considerably **less noticeable** when the worksheet is selected. Select another worksheet to see how the color will appear when the worksheet is not selected.

34								
35								
36								
37								
20								
	4	•	Januar	y Feb	ruary	March	April	(+)

Switching between worksheets

If you want to view a different worksheet, you can simply click the tab to switch to that worksheet. However,

with larger workbooks this can sometimes become tedious, as it may require scrolling through all of the tabs to find the one you want. Instead, you can simply **right-click** the scroll arrows in the lower-left corner, as shown below.



- 37 -

A dialog box will appear with a list of all of the sheets in your workbook. You can then **double-**

click the sheet you want to jump to.

Activate	?	\times
Activate:		
2017 Sales		~
2016 Sales		
2015 Sales		
2014 Sales		
2013 Sales		
2012 Sales		
2011 Sales		
2010 Sales		
2009 Sales		
2008 Sales		
2007 Sanzs		
2006 Sales		
2005 Sales		

Grouping and ungrouping worksheets

You can work with each worksheet **individually**, or you can work with multiple worksheets at the same time. Worksheets can be combined together into a **group**. Any changes made to one worksheet in a group will be made to **every worksheet** in the group.

To group worksheets:

In our example, employees need to receive training every three months, so we'll create a worksheet group for those employees. When we add the names of the employees to one worksheet, they'll be added to the other worksheets in the group as well.

1. Select the **first worksheet** you want to include in the **worksheet group**.

34						
35						
36						
37						
20						
	4	F	Janua	ry 🔓 Febru	iary	March

- 2. Press and hold the **Ctrl** key on your keyboard.
- 3. Select the **next worksheet** you want in the group. Continue to select worksheets until all of the worksheets you want to group are selected.
- 4. Release the **Ctrl** key. The worksheets are now **grouped**.

34		-	January	Febru	ary Ma	rch Apr	il May	June	July 📐 A	ugust
35 36 36 36 36 36 36 36 36 36 36 36 36 36	20									
35	37									
	36									
34	35									
	34									

While worksheets are grouped, you can navigate to any worksheet within the group. Any **changes** made to one worksheet will appear on **every worksheet** in the group. However, if you select a worksheet that is not in the group, all of your worksheets will become **ungrouped**.

To ungroup all worksheets:

1. Right-click a worksheet in the group, then select **Ungroup Sheets** from the **worksheet** menu.

					Insert
				X	Delete
					<u>R</u> ename
			_		Move or Copy
				Q.	View Code
				瞤	Protect Sheet
					Tab Color 🔹 🕨
					Hide
			-		<u>U</u> nhide
					Select All Sheets
					Ungroup Sheets

2. The worksheets will be **ungrouped**. Alternatively, you can simply click any worksheet not included in the group to **ungroup** all worksheets.

Januar	y Febru	iary Ma	rch Apr	ril May	June	July A	August	September

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Chapter-8 Page Layout

Introduction

Many of the commands you'll use to prepare your workbook for printing and PDF export can be found on the **Page Layout** tab. These commands let you control the way your content will appear on a printed page, including the **page orientation** and **margin size**. Other page layout options, such as **print titles** and **page breaks**, can help make your workbook easier to read.

Page Layout view

Before you start modifying a workbook's page layout, you may want to view the workbook in **Page Layout view**, which can help you visualize your changes.

To access Page Layout view, locate and select the **Page Layout** view command in the bottom-right corner of your workbook.



Page orientation

Excel offers two page orientation options: **landscape** and **portrait**. **Landscape** orients the page **horizontally**, while **portrait** orients the page **vertically**. Portrait is especially helpful for worksheets with a lot of **rows**, while landscape is best for worksheets with a lot of **columns**. In the example below, portrait orientation works best because the worksheet includes more rows than columns.



PAGE LAYOUT

Size

Portrait

Landscape

Gian Mari Bullo Eagle

Hawks Lighte Maalia

42

FORMULAS

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Setup

DATA

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Print Breaks Background Print Area • • Titles

REVIEW VIEW

Width: A

🗓 Height: 🗛

Scale to

🖳 Scale:

FILE HOME

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117

Colors -

A Fonts -

Effects *

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Themes

INSERT

Margin

Bears Bears Bears Bears Bears Bears Bears Buile Buile Buile Buile

To change page orientation:

- 1. Click the Page Layout tab on the Ribbon.
- 2. Select the **Orientation** command, then choose either **Portrait** or **Landscape** from the drop-down menu.
- 3. The page orientation of the workbook will be changed.

To format page margins:

A **margin** is the space between your content and the edge of the

page. By default, every workbook's margins are set to **Normal**, which is a one-inch space between the content and each edge of the page. Sometimes you may need to **adjust** the margins to make your data fit more comfortably on the page. Excel includes a variety of **predefined margin sizes**.

- 1. Click the **Page Layout** tab on the **Ribbon**, then select the **Margins** command.
- 2. The margins will be changed to the selected size.
- 1. Select the **desired margin size** from the drop-down menu. In our example, we'll select **Narrow** to fit more of our content on the page.



To use custom margins:

Excel also allows you to customize the size of your margins in the Page Setup dialog box.

- 1. From the Page Layout tab, click Margins. Select Custom Margins... from the drop-down menu.
- 2. The Page Setup dialog box will appear.
- Adjust the values for each margin, then click **OK**. 3.



	INSERT	PAGE L	AYOUT	FORM	JULAS
	Margins Or	ientation	Size	Print B	reaks Ba
		Last Cus	stom Set	tting	
	*	Top: Left: Header:	0.75" 0.25"	Bottom Right: Footer:	0.7"
		Normal Top: Left: Header:	0.7"	Bottom Right: Footer:	0.7"
00000		Wide Top: Left: Header:	1" 1" 0.5"	Botton Right: Footer:	1"
		Narrow Top: Left: Header:	0.75" 0.25"	Bottom Right: Footer:	0.25"
Б	Custo	m Margir	15		

The margins of the workbook will be 4. changed.

To include Print Titles:

If your worksheet uses title headings, it's important to include these headings on each page of your printed worksheet. It would be difficult to read a printed workbook if the title headings appeared only on the first page. The **Print Titles** command allows you to select specific rows and columns to appear on each page.

Click the Page Layout tab on the Ribbon, then select 1. the **Print Titles** command.



- The Page Setup dialog box will appear. From here, you 2. can choose rows or columns to repeat on each page. In our example, we'll repeat a row.
- Click the Collapse Dialog button next to the Rows to repeat at top: field. 3.

A1

3

5

6

5.

\$1:\$1

	Page Setup		?	X
Page Margins Heade	r/Footer Sheet			
Print <u>a</u> rea:				1
Print titles				
Rows to repeat at top:				
<u>Columns to repeat at left:</u> Print				F.M
Gridlines	Comments:	(None)		~
Black and white Draft guality	Cell <u>e</u> rrors as:	displayed		~
Row and column headi	ngs			
Page order				_
Down, then over Over, then down				
	<u>P</u> rint P	rint Previe <u>w</u>	<u>O</u> ptions	
		ОК	Can	cel



- 6. The **Page Setup** dialog box will expand. Click **OK**. Row 1 will be printed at the top of every page.
- Page Setup ? Page Margins Header/Footer Sheet Print area: Print titles 16 Rows to repeat at top: \$1:\$1 1 Columns to repeat at left: Print Gridlines ¥ Comments: (None) Black and white Cell errors as: displayed ~ Draft guality Row and column headings Page order Down, then over Over, then down Print Preview Options... Print... ок 📐 Cancel

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To insert a page break:

If you need to print different parts of your workbook across separate pages, you can insert a **page break**.

There are two types of page breaks: **vertical** and **horizontal**. Vertical page breaks separate columns, while horizontal page breaks separate rows. In our example, we'll insert a horizontal page break.

 Locate and select the Page Break view command. The worksheet will appear in Page Break view.

_	Page Brea	ak Previ	iew		Þ
	Ħ	E	E	+	100%

2. Select the **row** below where you want the page break to appear. For example, if you want to insert a page break between rows 28 and 29, select row 29.

	A	В	С	D	E
19	Bulls	Lightning	Saturday	Saturday, June 18, 2011	10:00 AM
20	Cavaliers	Eagles	Friday	Friday, August 05, 2011	6:00 PM
21	Cavaliers	Hawks	Friday	Friday, June 17, 2011	6:00 PM
22	Cavaliers	Bears	Saturday	Saturday, August 13, 2011	2:00 PM
23	Cavaliers	Bulls	Saturday	Saturday, June 25, 2011	2:00 PM
24	Cavaliers	Lightning	Saturday	Saturday, July 16, 2011	2:00 PM
25	Cavaliers	Tigers	Saturday	Saturday, July 02, 2011	2:00 PM
26	Cavaliers	Colts	Saturday	Saturday, August 20, 2011	10:00 AM
27	Cavaliers	Giants	Saturday	Saturday, July 23, 2011	10:00 AM
28	Cavaliers	Jets	Saturday	Saturday, July 09, 2011	10:00 AM
-29	Colts	Lightning	Friday	Friday, July 01, 2011	6:00 PM
30	Colts	Bears	Saturday	Saturday, June 25, 2011	2:00 PM
31	Colts	Eagles	Saturday	Saturday, August 13, 2011	2:00 PM
32	Colts	Hawks	Saturday	Saturday, July 30, 2011	2:00 PM
33	Colts	Jets	Saturday	Saturday, July 23, 2011	2:00 PM
34	Colts	Marlins	Saturday	Saturday, June 18, 2011	2:00 PM
35	Colts	Cavaliers	Saturday	Saturday, August 20, 2011	10:00 AM



4. The page break will be **inserted**, represented by a **dark blue line**.

	А	В	С	D	E
19	Bulls	Lightning	Saturday	Saturday, June 18, 2011	10:00 AM
20	Cavaliers	Eagles	Friday	Friday, August 05, 2011	6:00 PM
21	Cavaliers	Hawks	Friday	Friday, June 17, 2011	6:00 PM
22	Cavaliers	Bears	Saturday	Saturday, August 13, 2011	2:00 PM
23	Cavaliers	Bulls	Saturday	Saturday, June 25, 2011	2:00 PM
24	Cavaliers	Lightning	Saturday	Saturday, July 16, 2011	2:00 PM
25	Cavaliers	Tigers	Saturday	Saturday, July 02, 2011	2:00 PM
26	Cavaliers	Colts	Saturday	Saturday, August 20, 2011	10:00 AM
27	Cavaliers	Giants	Saturday	Saturday, July 23, 2011	10:00 AM
28	Cavaliers	Jets	Saturday	Saturday, July 09, 2011	10:00 AM
29	Colts	Lightning	Friday	Friday, July 01, 2011	6:00 PM
30	Colts	Bears	Saturday	Saturday, June 25, 2011	2:00 PM
31	Colts	Eagles	Saturday	Saturday, August 13, 2011	2:00 PM
32	Colts	Hawks	Saturday	Saturday, July 30, 2011	2:00 PM
33	Colts	Jets	Saturday	Saturday, July 23, 2011	2:00 PM
34	Colts	Marlins	Saturday	Saturday, June 18, 2011	2:00 PM
35	Colts	Cavaliers	Saturday	Saturday, August 20, 2011	10:00 AM

When viewing your workbook in **Normal** view, inserted page breaks are represented by a **solid gray line**, while automatic page breaks are represented by a **dashed line**.

	В	С	D		E	F
Colts		Saturday	Saturday, August	12 2011		
Lightning		Saturday	Saturday, J 🗛	utomatic		
Marlins	Inserted	Saturday	Saturday, J	page break	\rightarrow	
Tigers	page break	Saturday	Saturday, Ju	DICak		
Bears	DICAK	Saturday	Saturday, July	23, 2011		
Hawks	_	Saturday	Saturday, July	16, 2011		
Jets		Saturday	Saturday, June	25, 2011		
Lightning	•	Friday	Friday, August	12, 2011		
Tigers		Friday	Friday, June	24, 2011		
Bears		Saturday	Saturday, July	09, 2011		
Bulls		Saturday	Saturday, August	20, 2011	2:00 PM	

To insert headers and footers:

You can make your workbook easier to read and look more professional by including **headers and footers**. The **header** is a section of the workbook that appears in the **top margin**, while the **footer** appears in the **bottom margin**. Headers and footers generally contain information such as page number, date, and workbook name.

SARVA EDUCATION (SITED) (An I.T & Skill Advancement Training Programme)

1. Locate and select the **Page Layout view** command at the bottom of the Excel window. The worksheet will appear in Page Layout view.



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2. Select the **header** or **footer** you want to modify. In our example, we'll modify the **footer** at the bottom of the page.



4. The footer will change to include page numbers automatically.



Excel uses the same tools as Microsoft Word to modify headers and footers. Check out our chapter on **Headers, Footers,** and Page Numbers from Word 2013 e-book

Chapter-9 Printing Workbooks

Introduction

There may be times when you want to **print a workbook** to view and share your data **offline**. Once you've chosen your **page layout** settings, it's easy to preview and print a workbook from Excel using the **Print** pane.

To access the Print pane:

1. Select the **File** tab. **Backstage view** will appear.



2. Select **Print**. The **Print** pane will appear.



Pri	nt
Pri	
Print	er O
	Lexmark X422 (MS) 1
	Printer Properties
Setti	ngs 3
	Print Active Sheets
Pages:	Only print the active sheets
	Print One Sided Only print on one side of th
ĒĒ	Collated 1,2,3 1,2,3 1,2,3
	Portrait Orientation -
	Letter
	Normal Margins Left: 0.7" Right: 0.7"
	Custom Scaling 🗸
L	Page Setup

To print a workbook:

- 1. Navigate to the **Print** pane, then select the desired **printer**.
- 2. Enter the number of **copies** you wish to print.
- 3. Select any additional **settings** if needed (see above interactive).
- 4. Click Print.

Choosing a print area

Before you print an Excel workbook, it's important to decide exactly

what information you want to print. For example, if you have multiple worksheets in your workbook, you will need to decide if you want to print the **entire workbook** or only **active worksheets**. There may also be times when you want to print only a **selection** of content from your workbook.

4.

Click

the Print button.

To print active sheets:

Worksheets are considered active when **selected**.

- Select the **worksheet** you want to print. To print **multiple worksheets**, click the first worksheet, hold the **Ctrl** key on your keyboard, then click any other worksheets you want to select.
- 2. Navigate to the **Print** pane.
- 3. Select **Print Active Sheets** from the **Print Range** drop-down menu.







To print the entire workbook:

- 1. Navigate to the **Print** pane.
- 2. Select **Print Entire Workbook** from the **Print Range** drop-down menu.

4.



3. Click the **Print** button.



To print a selection:

In our example, we'll print a selection of content related to upcoming softball games in July.

- 1. Select the **cells** you want to print.
- 2. Navigate to the **Print** pane.
- 3. Select **Print Selection** from the **Print Range** drop-down menu.



 Click the **Print** button to print the selection.



1 Team Opponent Date Time Bears 2 Friday Monday, June 17, 2013 6:00 PM Jets 3 Bears Cavaliers Saturday Tuesday, August 13, 2013 2:00 PM Tuesday, June 25, 2013 4 Bears Colts Saturday 2:00 PM 2:00 PM 5 Bears Giants Saturday Tuesday, July 09, 2013 6 Bears Marlins Saturday Tuesday, July 02, 2013 2:00 PM Bears 7 Bulls Saturday Tuesday, July 16, 2013 10:00 AM 8 Bears Tuesday, July 23, 2013 🗘 10:00 AM Eagles Saturday 9 Bears Hawks Saturday Tuesday, August 20, 2013 10:00 AM 10 Bears Lightning Saturday Tuesday, August 06, 2013 10:00 AM

A **preview** of your selection will appear in the **Preview** pane.

Bears	Giants	Saturday	Saturday, July 09,
Bears Bears	Giants Marlins	Saturday Saturday	Saturday, July 09, Saturday, July 02,

If you prefer, you can also set the **print area** in advance so you'll be able to visualize which cells will be printed as you work in Excel. Simply **select** the cells you want to print, click the **Page Layout** tab, select the **Print Area** command, then choose **Set Print Area**.

E	ILE HOME	INSERT	PAGE LAYOUT FORM	ULAS DATA REVIEW	VIEW DESIGN
The	Colors + Mes A Fonts + Themes int Area +	Margins Orien	Pac Ca Set	reaks Background Print	Width: Automatic - Gr Height: Automatic - Scale: 100% ‡
	А	в	с	D	E
6	First Name	Last	Cell Phone	Street Address	Position(s)
7	Amanda	Ryan	513-555-4477	800 Round Table Drive	Pitcher, Second base
8	Tricia	Matthews	808-555-6397	4721 Arron Smith Drive	Catcher
9	Josefina	Woodard	714-555-4506	2152 Liberty Avenue	Outfield
10	Rodney	Ross	310-555-8862	3503 Prospect Valley Road	First base
11	Leigh	Dizon	607-555-7816	1483 Frosty Lane	Third base
12	Mark	Grant	914-555-5592	1663 Taylor Street	Shortstop
13	Mildred	Persinger	601-555-0175	3329 Washington Avenue	First base, pitcher
14	Dwayne	Patnode	205-555-3783	1736 Broad Street	DH
15	Bonnie	Benjamin	502-555-1212	2937 Earnhardt Drive	Second base
16	Eva	Ramer	805-555-8514	232 Timber Oak Drive	Right field
17	Carol	Pena	571-555-0704	4072 Nelm Street	Third Base
18	Leola	McNew	580-555-8177	2182 Cody Ridge Road	Pitcher
19	Annie	Muro	502-555-0190	1001 Cerullo Road	Second base
20	Joe	Rodriguez	781-555-9659	9 Tenmile Road	Third base
21	Josephine	Carter	713-555-6401	1386 Patterson Street	Outfield, catcher

Fitting and scaling content

On occasion, you may need to make **small adjustments** from the Print pane to fit your workbook content neatly onto a printed page. The Print pane includes several

tools to help fit and scale your content, such as **scaling** and **page margins**.

To fit content before printing:

If some of your content is being cut off by the printer, you can use **scaling** to fit your workbook to the page automatically.

- 1. Navigate to the **Print** pane. In our example, we can see in the Preview pane that our content will be cut off when printed.
- Select the desired option from the Scaling drop-down menu. In our example, we'll select Fit Sheet on One Page.



Keep in mind that more **difficult to read** as you may not want to use a worksheet with a lot of

To modify margins in the

3. The worksheet will be **condensed** to fit onto a single page.

First Na

Amanda Tricia

Josefina

Rodney Leigh

Mark Mildred Dwayne

Bonnie

Eva Carol

Leola

Nicole

Anthony Sally

Joshua Ray Carla

Billy

Annie Joe Josephine Last

Ryan Matthews

Ross Dizon

Grant

Pena

Carter

Waugh Keel Smith

Milliman

Ramirez

Sanchez

Logan

McNew

Muro Rodriguez

Woodard

Persinger Patnode

Benjamin

Ż	$\langle -$	Bulls Tean	n Roster: Co-ed Softbell 2013	\mathbf{X}
	V Lest	Cell Phone	Street Address	
First Name Amanda	Ren	Cell Phone 513-555-4477	Street Address 800 Round Table Drive	Position(s) Pitcher, Second base
Amanda Tricia	Matthews		4721 Arron Smith Drive	Catcher
losefina	Woodard		2152 Liberty Avenue	Outfield
Rodney	Ross	310-555-8862	3508 Prospect Valley Road	First base
kooney Leich	Dizon	607-555-7816	1485 Frosty Lane	Third base
Legn Mark	Grant	914-555-5592	1665 Taylor Street	Shortstop
Mildred	Persinger		3329 Washington Avenue	First base, pitcher
	Patnode	205-555-3783	1736 Broad Street	DH
Dwayne Bonnie	Benjamin		2937 Earnhardt Drive	Second base
bonnie Eva	Ramer	805-555-8514	2957 carmardt Unive 232 Timber Oak Drive	Right field
Carol	Rema	571-555-0704	4072 Nelm Street	Third Base
Leda	McNew	580-555-8177	2182 Cody Ridge Road	Pitcher
Leoa Annie	Muro	502-555-0190	1001 Cerulio Road	Second base
Annie Joe	Rodriguez		9 Tenmile Road	Third base
Josephine	Carter	713-555-6401	1386 Patterson Street	Outfield catcher
Nicole	Waugh	707-555-8767	3990 Pretty View Lane	Left field
Anthony	Keel	267-555-0144	533 Spring Avenue	Shortstop, pinch runner
Sally	Smith	571-555-9432	2723 Nelm Street	Left field. Center field
Joshua	Milliman		2166 Zmmerman Lane	Pitcher, DH
Rav	Logan	256-555-2475	2.439 Ritter Street	Center Field
Carla	Ramirez	573-555-1107	4858 Penn Street	First base. Third base
Bilv	Sanchez	205-555-6874	569 Strother Street	Pitcher, Outfield
Neil	Crawford		2312 Stonepot Road	LeftField
Robert	Murray	318-55 5-4659	745 Brookside Drive	Manager

 When you're satisfied with the scaling, click **Print**.

Bulls Tean

Cell Phone 513-555-4477

808-555-6397

714-555-4506

310-555-8862 607-555-7816

914-555-5592

601-555-0175 205-555-3783

502-555-1212

805-555-8514 571-555-0704

580-555-8177

502-555-0190 781-555-9659

713-555-6401

707-555-8767

267-555-0144 571-555-9432

213-555-1117 256-555-2475 573-555-1107

205-555-6874

Print			
-	Copies:	1	*
Print			

worksheets will become they are scaled down, so this option when printing information.

Preview pane:

Sometimes you may only need to adjust a **single margin** to make your data fit more comfortably. You can modify individual page margins from the **Preview** pane.

1. Navigate to the **Print** pane, then click the **Show Margins** button in the lower-right corner.



.....

The page margins will appear in the Preview pane. Hover the mouse over one of the margin markers until the cursor becomes a double arrow . In our example, we'll modify the left margin to fit an additional column on the page.

.			
Team	Opponent	Day	Date
Bears	Jets	Friday	Friday, June 17, 2011
Bears	Cavaliers	Saturday	Saturday, August 13, 2011
Bears	Colts	Saturday	Saturday, June 25, 2011
Bears	Giants	Saturday	Saturday, July 09, 2011
Bears	Marlins	Saturday	Saturday, July 02, 2011
Bears	Bulls	Saturday	Saturday, July 16, 2011
Bears	Eagles	Saturday	Saturday, July 23, 2011
Bears	Hawks	Saturday	Saturday, August 20, 2011

3. Click, hold, and drag the mouse to **increase** or **decrease** the **margin width**.

 -	T	Ţ		T
Team	Opponent	Day	Date	
Bears	Jets	Friday	Friday, June 17,	2011
Bears	Cavaliers	Saturday	Saturday, August 13,	2011
Bears	Colts	Saturday	Saturday, June 25,	2011
Bears	Giants	Saturday	Saturday, July 09,	2011
Bears	Marlins	Saturday	Saturday, July 02,	2011
Bears	Bulls	Saturday	Saturday, July 16,	2011
Bears	Eagles	Saturday	Saturday, July 23,	2011
Bears	Hawks	Saturday	Saturday, August 20,	2011

4. Release the mouse. The margin will be modified. In our example, we were able to fit an additional column on the page.

	•		P 1	•
Team	Opponent	Day	Date	Time
Bears	Jets	Friday	Friday, June 17, 2011	6:00 PM
Bears	Cavaliers	Saturday	Saturday, August 13, 2011	2:00 PM
Bears	Colts	Saturday	Saturday, June 25, 2011	2:00 PM
Bears	Giants	Saturday	Saturday, July 09, 2011	2:00 PM
Bears	Marlins	Saturday	Saturday, July 02, 2011	2:00 PM
Bears	Bulls	Saturday	Saturday, July 16, 2011	10:00 AM
Bears	Eagles	Saturday	Saturday, July 23, 2011	10:00 AM
Bears	Hawks	Saturday	Saturday, August 20, 2011	10:00 AM

Chapter-10 Simple Formulas

Introduction

One of the most powerful features in Excel is the ability to **calculate** numerical information using **formulas**. Just like a calculator, Excel can add, subtract, multiply, and divide. In this lesson, we'll show you how to use **cell references** to create simple formulas.

Mathematical operators

Excel uses standard operators for formulas, such as a **plus sign** for addition (+), a **minus sign** for subtraction (-), an **asterisk** for multiplication (*), a **forward slash** for division (/), and a **caret** (^) for exponents.

All formulas in Excel must begin with an **equals sign** (=). This is because the cell contains, or is equal to, the formula and the value it calculates.



While you can create simple formulas in Excel manually (for example, =2+2 or =5*5), most of the time you will use **cell** addresses to create a formula. This is known as making a **cell reference**. Using cell references will ensure that your formulas are always accurate because you can change the value of referenced cells without having to rewrite the formula.

By combining a mathematical operator with cell references, you can create a variety of simple formulas in Excel. Formulas can also include a combination of cell references and numbers, as in the examples below:

=A1+A2	Adds cells A1 and A2
=C4-3	Subtracts 3 from cell C4
=E7/J4	Divides cell E7 by J4
=N10*1.05	Multiplies cell N10 by 1.05
=R5^2	Finds the square of cell R5

To create a formula:

In our example below, we'll use a simple formula and cell references to calculate a budget.

- 1. Select the **cell** that will contain the formula. In our example, we'll select cell **B3**.
- 2. Type the **equals sign (=)**. Notice how it appears in both the **cell** and the **formula bar**.



B	3	$\times \checkmark f_x$	
	А	В	с
1	June Budget	\$1,200.00	
2	July Budget	\$1,500.00	
3	Total Budget	÷.	
4			
5			

 Type the cell address of the cell you want to reference first in the formula: cell B1 in our example. A blue border will appear around the referenced cell.

รเ	JM - E	$\times \checkmark f_x$	=B1
	А	В	С
1	June Budget	\$1,200.00	
2	July Budget	\$1,500.00	
з	Total Budget	= B1 I	
4			
5			





- 4. Type the **mathematical operator** you want to use. In our example, we'll type the **addition sign** (+).
- Type the cell address of the cell you want to reference second in the formula: cell B2 in our example. A red border will appear around the referenced cell.

SL	JM - : :	$\times \checkmark f_x$	=B1+B2
	A	В	С
1	June Budget	\$1,200.00	
2	July Budget	\$1,500.00	
3	Total Budget	=B1+B2 I	
4			
5			

6. Press **Enter** on your keyboard. The formula will be **calculated**, and the **value** will be displayed in the cell.

B	3 * : :	\times \checkmark f_x	=B1+B2
	A	В	С
1	June Budget	\$1,200.00	
2	July Budget	\$1,500.00	
з	Total Budget	\$2,700.00	
4			
5			

If the result of a formula is too large to be displayed in a cell, it may appear as **pound signs** (#######) instead of a value. This means the column is not wide enough to display the cell content. Simply **increase the column width** to show the cell content.

Modifying values with cell references

The true advantage of cell references is that they allow you to **update data** in your worksheet without having to rewrite formulas. In the example below, we've modified the value of cell B1 from \$1,200 to \$1,800. The formula in B3 will automatically recalculate and display the new value in cell B3.

B	• • E 3	$\times \checkmark f_x$	=B1+B2					
	А	В	с		D		Е	
1	June Budget	\$1,800.00	-	Chan	ged th	e valu	e of cell	
2	July Budget	\$1,500.00					\$1800	
3	Total Budget	\$3,300.00						
4								_
5		T						
6								
7								
8	Cell	B3 recalculat	es and					
9		the new valu						
10		ns the formul						
11	- it contai	no no nomu						
12								
13								

Excel **will not always tell you** if your formula contains an error, so it's up to you to check all of your formulas.

To create a formula using the point-and-click method:

Rather than typing cell addresses manually, you can **point and click** on the cells you want to include in your formula. This method can save a lot of time and effort when creating formulas. In our example below, we'll create a formula to calculate the cost of ordering several boxes of plastic silverware.

- Select the cell that will contain the formula. In our example, we'll select cell D3.
- 2. Type the **equals sign (=)**.
- Select the cell you want to reference first in the formula: cell B3 in our example. The cell address will appear in the formula, and a dashed blue line will appear around the referenced cell.

B	3 v		\times	\checkmark	f_x	=[33			
4			А				В	с	D	E
1	Paper Supply Inventory Orders									
2			ltem				Quantity	Price Per Uni	t Total Cost	
3	Plastic Silverware (box of 100)				0)	🛟 9	\$8.75	=B3		
4	Napkins (I	box	of 25	0)			12	\$2.59		
5	Plates (bo	x of	50)				6	\$14.25		
6	Cups (box of 75)					10	\$11.99			
7	Total									
8										

D3	D3 ▼ : × √ f _x					
	A	В	С	D	Е	
1	Paper Supply Inventory Orders					
2	Item	Quantity	Price Per Unit	Total Cost		
3	Plastic Silverware (box of 100)	9	\$8.75	¢		
4	Napkins (box of 250)	12	\$2.59			
5	Plates (box of 50)	6	\$14.25			
6	Cups (box of 75)	10	\$11.99			
7	Total					
8						

- 4. Type the **mathematical operator** you want to use. In our example, we'll type the **multiplication sign (*)**.
- Select the cell you want to reference second in the formula: cell C3 in our example. The cell address will appear in the formula, and a dashed red line will appear around the referenced cell.

СЗ	▼ : × ✓ f _x =	B3*C3				
	А	В	С	D		
Paper Supply Inventory Orders						
2	Item	Quantity	Price Per Unit	Total Cost		
3 F	Plastic Silverware (box of 100)	9	\$8.75	=B3*C3		
1 I	Napkins (box of 250)	12	\$2.59			
5 F	Plates (box of 50)	6	\$14.25			
5 (Cups (box of 75)	10	\$11.99			
7 1	Fotal					
8 T						

 Press Enter on your keyboard. The formula will be calculated, and the value will be displayed in the cell.

DB	3 ~	\times	\checkmark	f_x	=	B3*C3			
		А				В	С	D	Е
1	Paper Supply Inventory Orders								
2		Item				Quantity	Price Per Unit	Total Cost	
3	Plastic Silverware (box of 100)				D)	9	\$8.75	\$78.75	
4	Napkins (box of 250)				12	\$2.59			
5	Plates (box	of 50)				6	\$14.25		
6	Cups (box o	f 75)				10	\$11.99		
7	Total								
8									

Formulas can also be **copied** to adjacent cells with the **fill handle**, which can save a lot of time and effort if you need to perform the **same calculation** multiple times in a worksheet.



To edit a formula:

Sometimes you may want to modify an existing formula. In the example below, we've entered an incorrect cell address in our formula, so we'll need to correct it.

 Select the **cell** containing the formula you want to edit. In our example, we'll select cell **B3**.

B3	¥ E ⊃	$\land \checkmark f_x$	=B1-C2
4	A	В	С
1	Budget Total	\$1,050.00	
2	Inventory Cost	\$315.23	
3	Total Remaining	\$1,050.0C	
1			
5			

3. A **border** will appear around any referenced cells. In our example, we'll change the second part of the formula to reference cell **B2** instead of cell **C2**.

SL	л - : Э	$\times \checkmark f_x$	=B1-C2	
	А	В	С	D
1	Budget Total	\$1,050.00		
2	Inventory Cost	\$315.23		
3	Total Remaining	=B1-C2		
4				
5				

The formula will be updated, and the new value will be displayed in the cell.

BB	• • • •	$\times \checkmark f_x$	=B1-B2
	А	В	с
1	Budget Total	\$1,050.00	
2	Inventory Cost	\$315.23	
3	Total Remaining	\$734.77	
4			
5			

 Click the formula bar to edit the formula. You can also double-click the cell to view and edit the formula directly within the cell.



 When you're finished, press Enter on your keyboard or click the checkmark in the formula bar.

SU	- MI	$\times \qquad f_{x}$	=B1-B2
	А	Enter	С
1	Budget Total	\$1,050.00	
2	Inventory Cost	\$315.23	
3	Total Remaining	=B1-B2	
4			
5			

If you change your mind, you can press the **Esc** key on your keyboard to avoid accidentally making changes to your formula.

To show all of the formulas in a spreadsheet, you can hold the **Ctrl** key and press ` (grave accent). The grave accent key is usually located in the top-left corner of the keyboard. You can press **Ctrl+**` again to switch back to the normal view.

Chapter-11 Complex Formulas

Introduction

A simple formula is a mathematical expression with one operator, such as **7+9**. A **complex formula** has more than one mathematical operator, such as **5+2*8**. When there is more than one operation in a formula, the **order of operations** tells Excel which operation to calculate first. In order to use Excel to calculate complex formulas, you will need to understand the order of operations.

The order of operations

Excel calculates formulas based on the following **order of operations**:

- 1. Operations enclosed in **parentheses**
- 2. **Exponential** calculations (3^2, for example)
- 3. Multiplication and division, whichever comes first
- 4. Addition and subtraction, whichever comes first

A mnemonic that can help you remember the order is **PEMDAS**, or **P**lease **E**xcuse **M**y **D**ear **A**unt **S**ally.

To learn more about how the order of operations is used to calculate formulas in Excel see image below-

Using	the Order of Operations
Р	10+(6-3)/2^2*4-1
E	10+3/2^2*4-1
м	10+3/4*4-1
D	10+0.75*4-1
A	10+3-1
S	13-1=12

Now we have our answer: 12. This is the exact same result you would get if you entered the formula into Excel.

Creating complex formulas

In the example below, we will demonstrate how Excel solves a complex formula using the order of operations. Here, we want to calculate the cost of **sales tax** for a catering invoice. To do this, we'll write our formula as **= (D2+D3)*0.075** in cell **D4**. This formula will add the prices of our items together and then multiply that value by the 7.5% tax rate (which is written as 0.075) to calculate the cost of sales tax.

Excel follows the order of operations and first adds the values inside the parentheses: **(44.85+39.90) = \$84.75**. It then multiplies that value by the tax rate: **\$84.75*0.075**. The result will show that the sales tax is **\$6.36**.

		+D3)*0.075			
	A	В	с	D	Е
1	Menu Item	Price	Quantity	Total	
2	Empanadas: Beef Picadillo	\$2.99	15	\$44.85	
3	Empanadas: Chipotle Shrimp	\$3.99	10	\$39.90	
4		Tur	Tax	=(D2+D3)*0.075]	
5		Total	Total		
6					
	D4 \bullet : $\times \checkmark f_x$	=(D2+D3)*0	.075		
	A	E	С	D	E
	1 Menu Item	Det			
	Wienu Rein	Pri	ce Quanti	ty Total	
	2 Empanadas: Beef Picadillo	\$2.	-	ty lotal 15 \$44.85	
	 2 Empanadas: Beef Picadillo 3 Empanadas: Chipotle Shrimp 		99 1	•	
es	 2 Empanadas: Beef Picadillo 3 Empanadas: Chipotle Shrimp 	\$2.	99 1 99 1	15 \$44.85	
es	 2 Empanadas: Beef Picadillo 3 Empanadas: Chipotle Shrimp 	\$2.	99 1 99 1	15 \$44.85 10 \$39.90 ax \$6.36	

It is especially important to enter complex formulas with the correct order of operations. Otherwise, Excel will not calculate the results accurately. In our example, if the **parentheses** are not included, the multiplication is calculated first and the result is incorrect. Parentheses are the best way to define which calculations will be performed first in Excel.

	$\overline{}$: \times \checkmark f_x =(D2+	·D3)*0.075					
4	А	В			rentheses, n		
	Menu Item	Price	0		rmed before to an incorr		
	Empanadas: Beef Picadillo	\$2.99	Π				
	Empanadas: Chipotle Shrimp	\$3.99	Γ	10	\$39.	90	
r I		100		Tax = D	2+D3 *0.07	5	
				Total			
;					Tax		\$47.8
-			-		Total		

To create a complex formula using the order of operations:

In our example below, we will use **cell references** along with **numerical values** to create a complex formula that will calculate the **total cost** for a catering invoice. The formula will calculate the cost for each menu item and then add those values together.

1. Select the **cell** that will contain the formula. In our example, we'll select cell **C4**.

C4	\bullet : \times \checkmark f_x			
	А	В	С	D
1	Menu Item	Price	Quantity	
2	Tamales: Chicken Tinga	\$2.29	20	
3	Empanadas: Apple Cinnamon	\$3.49	35	
4		Total	¢	
5				

Enter your formula. In our example, we'll type =B2*C2+B3*C3. This formula will follow the order of operations, first performing the multiplication: 2.29*20 = 45.80 and 3.49*35 = 122.15. It then will add those values together to calculate the total: 45.80+122.15.

SU	M \checkmark : \times \checkmark f_x	=B2*C2+B	3*C3	
	А	В	С	D
1	Menu Item	Price	Quantity	
2	Tamales: Chicken Tinga	\$2.29	20	
3	Empanadas: Apple Cinnamon	\$3.49	35	
4		Total]=B2*C2+B3*C3	
5				

 Double-check your formula for accuracy, then press Enter on your keyboard. The formula will calculate and display the result. In our example, the result shows that the total cost for the order is \$167.95.

C4	\bullet : $\times \checkmark f_x$	=B2*C2+B	3*C3	
	A	В	С	D
1	Menu Item	Price	Quantity	
2	Tamales: Chicken Tinga	\$2.29	20	
3	Empanadas: Apple Cinnamon	\$3.49	35	
4		Total	\$167.95	
5				

You can add **parentheses** to any equation to make it easier to read. While it won't change the result of the formula in this example, we could enclose the multiplication operations within parentheses to clarify that they will be calculated before the addition.

C	DUNTA \checkmark : X \checkmark f_x	=(B2*C2)+	(B3*C3)	
	А	В	С	D
1	Menu Item	Price	Quantity	
2	Tamales: Chicen Tinga	\$2.29	20	
3	Empanadas: Apple Cinnamon	\$3.49	35	
4		Total	=(<mark>B2*C2)+(</mark> B3*C3)	
5				

Chapter-12 Relative and Absolute Cell References

Introduction

There are two types of cell references: **relative** and **absolute**. Relative and absolute references behave differently when copied and filled to other cells. Relative references **change** when a formula is copied to another cell. Absolute references, on the other hand, remain **constant**, no matter where they are copied.

Relative references

By default, all cell references are **relative references**. When copied across multiple cells, they change based on the relative position of rows and columns. For example, if you copy the formula **=A1+B1** from row 1 to row 2, the formula will become **=A2+B2**. Relative references are especially convenient whenever you need to **repeat** the same calculation across multiple rows or columns.

To create and copy a formula using relative references:

In the following example, we want to create a formula that will multiply each item's **price** by the **quantity**. Instead of creating a new formula for each row, we can create a single formula in cell **D2** and then copy it to the other rows. We'll use relative references so the formula correctly calculates the total for each item.

- Select the **cell** that will contain the formula. In our example, we'll select cell **D2**.
- Enter the formula to calculate the desired value. In our example, we'll type =B2*C2.

C2	e ▼ : X ✓ f _x =B2*C	2			
	A	В	С	D	E
1	Menu Item	Price	Quantity	Total	
2	Empanadas: Beef Picadillo	\$2.99	15	= <mark>B2*C2</mark>]	
3	Empanadas: Chipotle Shrimp	\$3.99	10		[
4	Empanadas: Black Bean & Plantain	\$2.49	20		
5	Tamales: Chicken Tinga	\$2.29	20		
6	Tamales: Vegetable	\$2.29	30		
7	Arepas: Carnitas	\$2.89	10		
8	Arepas: Queso Blanco	\$2.49	20		
9	Empanadas: Apple Cinnamon	\$3.19	40		
10	Beverages: Horchata	\$1.89	25		
11	Beverages: Lemonade	\$1.89	35		
12	Beverages: Tamarindo	\$1.89	10		
13			Total		
14					

 Click, hold, and drag the fill handle over the cells you want to fill. In our example, we'll select cells D3:D12.

52	2 ▼ : × √ f _x =B2*0	2			Irag the fill handl Ila to adjacent ce	
	Menu Item	Pr	ice	Quantity	rotar	
2	Empanadas: Beef Picadillo	\$2	.99	15	\$44.85	
3	Empanadas: Chipotle Shrimp	\$3	.99	10		
4	Empanadas: Black Bean & Plantain	\$2	.49	20		
5	Tamales: Chicken Tinga	\$2	.29	20		
5	Tamales: Vegetable	\$2	.29	30		
7	Arepas: Carnitas	\$2	.89	10		
в	Arepas: Queso Blanco	\$2	.49	20		
9	Empanadas: Apple Cinnamon	\$3	.19	40		
0	Beverages: Horchata	\$1	.89	25		
1	Beverages: Lemonade	\$1	.89	35		
12	Beverages: Tamarindo	\$1	.89	10		
з				Total		
4						

D	$2 \overline{} : X \sqrt{f_x}$				
	А	В	С	D	E
1	Menu Item	Price	Quantity	Total	
2	Empanadas: Beef Picadillo	\$2.99	15	÷.	
3	Empanadas: Chipotle Shrimp	\$3.99	10		
4	Empanadas: Black Bean & Plantain	\$2.49	20		
5	Tamales: Chicken Tinga	\$2.29	20		
6	Tamales: Vegetable	\$2.29	30		
7	Arepas: Carnitas	\$2.89	10		
8	Arepas: Queso Blanco	\$2.49	20		
9	Empanadas: Apple Cinnamon	\$3.19	40		
10	Beverages: Horchata	\$1.89	25		
11	Beverages: Lemonade	\$1.89	35		
12	Beverages: Tamarindo	\$1.89	10		
13			Total		
14					

- Press Enter on your keyboard. The formula will be calculated, and the result will be displayed in the cell.
- Locate the fill handle in the bottom-right corner of the desired cell. In our example, we'll locate the fill handle for cell D2.

D2	\bullet \bullet \bullet \bullet \bullet f_x =B2*C	2			
	А	В	С	D	E
1	Menu Item	Price	Quantity	Total	
2	Empanadas: Beef Picadillo	\$2.99	15	\$44.85	
з	Empanadas: Chipotle Shrimp	\$3.99	10		
4	Empanadas: Black Bean & Plantain	\$2.49	20		
5	Tamales: Chicken Tinga	\$2.29	20		
6	Tamales: Vegetable	\$2.29	30		
7	Arepas: Carnitas	\$2.89	10	The fill hand	lle
8	Arepas: Queso Blanco	\$2.49	20		
9	Empanadas: Apple Cinnamon	\$3.19	40		
10	Beverages: Horchata	\$1.89	25		
11	Beverages: Lemonade	\$1.89	35		
12	Beverages: Tamarindo	\$1.89	10		
13			Total		
14					

6. Release the mouse. The formula will be **copied** to the selected cells with **relative references**, and the values will be calculated in each cell.

A	В	С	D	E
Menu Item	Price	Quantity	Total	
Empanadas: Beef Picadillo	\$2.99	15	\$44.85	
Empanadas: Chipotle Shrimp	\$3.99	10	\$39.90	
Empanadas: Black Bean & Plantai	n \$2.49	20	\$49.80	
Tamales: Chicken Tinga	\$2.29	20	\$45.80	
Tamales: Vegetable	\$2.29	30	\$68.70	
Arepas: Carnitas	\$2.89	10	\$28.90	
Arepas: Queso Blanco	\$2.49	20	\$49.80	
Empanadas: Apple Cinnamon	\$3.19	40	\$127.60	
Beverages: Horchata	\$1.89	25	\$47.25	
Beverages: Lemonade	\$1.89	35	\$66.15	
Beverages: Tamarindo	\$1.89	10	\$18.90	
		Total		

You can double-click the **filled cells** to check their formulas for accuracy. The relative cell references should be different for each cell, depending on their rows.

UM ▼ : × ✓ ƒ _x =B8*C	8			
A	В	С	D	
Menu Item	Price	Quantity	Total	
Empanadas: Beef Picadillo	\$2.99	15	\$44.85	
Empanadas: Chipotle Shrimp	\$3.99	10	<u>\$39.9</u> 0	
Empanadas: Black Bean & Plantain	\$2.4	Cell references in row 8		
Tamales: Chicken Tinga	\$2.2	are relative to	o row 8 30	
Tamales: Vegetable	\$2.2		70	
Arepas: Carnitas	\$2.89	10	\$28.90	
Arepas: Queso Blanco	\$2.49	20	=B8*C8	
Empanadas: Apple Cinnamon	\$3.19	40	\$127.60	
Beverages: Horchata	\$1.89	25	\$47.25	
Beverages: Lemonade	\$1.89	35	\$66.15	
Beverages: Tamarindo	\$1.89	10	\$18.90	
3		Total		
L .				

Absolute references

There may be times when you do not want a cell reference to change when filling cells. Unlike relative references, absolute references do not change when copied or filled. You can use an absolute reference to keep a row and/or column constant.

\$A2

11 Beverages: Horchata

12 Beverages: Lemonade

13 Beverages: Tamarindo

14

15

An absolute reference is designated in a formula by the addition of a **dollar sign (\$)**. It can precede the column reference, the row reference, or both.

You will generally use the **\$A\$2** format when creating formulas that contain absolute references. The other two fo

formulas that contain absolute references. The other two formats are used much less frequently.

When writing a formula, you can press the **F4** key on your keyboard to switch between relative and absolute cell references. This is an easy way to quickly insert an absolute reference.

To create and copy a formula using absolute references:

In our example, we'll use the 7.5% sales tax rate in cell **E1** to calculate the sales tax for all items in **column D**. We'll need to use the absolute cell reference **\$E\$1** in our formula. Because each formula is using the same tax rate, we want that reference to remain constant when the formula is copied and filled to other cells in column D.

- 1. Select the **cell** that will contain the formula. In our example, we'll select cell **D3**.
- Enter the formula to calculate the desired value. In our example, we'll type =(B3*C3)*\$E\$1.

A	В	с	D	Е
		Sales Tax		7.5%
Menu Item	Price	Quantity	Sales Tax	Total
Empanadas: Beef Picadillo	\$2.99	I =(B3	*C3)*\$E\$1	\$48.20
Empanadas: Chipotle Shrimp	\$3.99	10		
Empanadas: Black Bean & Plantain	\$2.49	20		549.80
Tamales: Chicken Tinga	\$2.29	20		
Tamales: Vegetable	\$2.29	30		
Arepas: Carnitas	\$2.89	10		\$28.90
Arepas: Queso Blanco	\$2.49	20		\$49.80
Empanadas: Apple Cinnamon	\$3.19	40		\$1,27.60
Beverages: Horchata	\$1.89	25		\$47.25
Beverages: Lemonade	\$1.89	35		\$66.15
Beverages: Tamarindo	\$1.89	10		518.90
			Total	

	ard to switch between r rence.	elativ	e and ab	solute ce	ell
D	$\overline{}$: $\times \checkmark f_x$				
	А	В	С	D	E
1			Sales Tax		7.5%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo	\$2.99	15	¢	\$48.21
4	Empanadas: Chipotle Shrimp	\$3.99	10		\$39.90
5	Empanadas: Black Bean & Plantain	\$2.49	20		\$49.80
6	Tamales: Chicken Tinga	\$2.29	20		\$45.80
7	Tamales: Vegetable	\$2.29	30		\$68.70
8	Arepas: Carnitas	\$2.89	10		\$2.8.90
9	Arepas: Queso Blanco	\$2.49	20		\$49,80
10	Empanadas: Apple Cinnamon	\$3.19	40		\$127.60

\$1.89

\$1.89

\$1.89

The row does not change when copied

The column does not change when copied

 Press Enter on your keyboard. The formula will calculate, and the result will display in the cell.

25

35

10

Total

4. Locate the **fill handle** in the bottom-right corner of the desired cell. In our example, we'll locate the fill handle for cell **D3**.

D3	• ▼ : × √ f _x =(B3*C	C3)*\$E\$1			
	A	В	С	D	E
1			Sales Tax		7.5%
2	Menu Item	Price	Quantity	Sales Tax	Total
3	Empanadas: Beef Picadillo	\$2.99	15	\$3.36	
4	Empanadas: Chipotle Shrimp	\$3.99	10		
5	Empanadas: Black Bean & Plantain	\$2.49	20		
6	Tamales: Chicken Tinga	\$2.29	20		
7	Tamales: Vegetable	\$2.29	3 <mark>0</mark>	- 1	
8	Arepas: Carnitas	\$2.89	1	The fill hand	le
9	Arepas: Queso Blanco	\$2.49	20		
10	Empanadas: Apple Cinnamon	\$3.19	40		
11	Beverages: Horchata	\$1.89	25		
12	Beverages: Lemonade	\$1.89	35		
13	Beverages: Tamarindo	\$1.89	10		
14				Total	
15					

 Click, hold, and drag the fill handle over the cells you want to fill: cells D4:D13 in our example.

93 ▼ : × ✓ f _x =(B3*0	C3)*\$E\$1							
Click, hold and drag the fill handle to copy the formula to adjacent cells %								
Menu Item	Price	Quantity	Sales Tax	Total				
Empanadas: Beef Picadillo	\$2.99	15	\$3.36					
Empanadas: Chipotle Shrimp	\$3.99	10						
Empanadas: Black Bean & Plantain	\$2.49	20						
Tamales: Chicken Tinga	\$2.29	20						
Tamales: Vegetable	\$2.29	30						
Arepas: Carnitas	\$2.89	10						
Arepas: Queso Blanco	\$2.49	20						
Empanadas: Apple Cinnamon	\$3.19	40						
Beverages: Horchata	\$1.89	25						
Beverages: Lemonade	\$1.89	35		T				
Beverages: Tamarindo	\$1.89	10	-	_				
1			Total					
5 ·								

6. Release the mouse. The formula will be **copied** to the selected cells with an **absolute reference**, and the values will be calculated in each cell.

D3 ▼ : × √ f _x =(B3*	C3)*\$E\$1			
A	В	С	D	E
1		Sales Tax		7.5%
2 Menu Item	Price	Quantity	Sales Tax	Total
Empanadas: Beef Picadillo	\$2.99	15	\$3.36	\$48.21
Empanadas: Chipotle Shrimp	\$3.99	10	\$2.99	\$42.89
Empanadas: Black Bean & Plantain	\$2.49	20	\$3.74	\$53.54
Tamales: Chicken Tinga	\$2.29	20	\$3.44	\$49.24
7 Tamales: Vegetable	\$2.29	30	\$5.15	\$73.85
Arepas: Carnitas	\$2.89	10	\$2.17	\$31.07
Arepas: Queso Blanco	\$2.49	20	\$3.74	\$53.54
Empanadas: Apple Cinnamon	\$3.19	40	\$9.57	\$137.17
1 Beverages: Horchata	\$1.89	25	\$3.54	\$50.79
2 Beverages: Lemonade	\$1.89	35	\$4.96	\$71.11
3 Beverages: Tamarindo	\$1.89	10	\$1.42	\$20.32
4			Total	
5				

Be sure to include the **dollar sign** (\$) whenever you're making an absolute reference across multiple cells. The dollar signs were omitted in the example below. This caused Excel to interpret it as a relative reference, producing an incorrect result when copied to other cells.

You can double-click the **filled cells** to check their formulas for accuracy. The absolute reference should be the same for each cell, while the other references are relative to the cell's row.

UM $\overline{}$: $\times \checkmark f_x$	=(B9*(C9)*\$E\$1					
A		В	С	D	E		
			Sales Tax		7.5%		
Menu Item		Price	Quantity	Sales Tax	Tcol		
Empanadas: Beef Picadillo	ef Picadillo Relative cell references in row 9 are						
Empanadas: Chipotle Shrimp		tive to ro					
Empanadas: Black Bean & P		ll referer					
Tamales: Chicken Tinga		92.2J	20	ŞJ.44			
Tamales: Vegetable	\$2.29	30	\$5.15				
Arepas: Carnitas	\$2.89	10	\$2.17				
Arepas: Queso Blanco		\$2.49]= (B9	9 *C9)* \$E\$1	1		
Empanadas: Apple Cinnamor		\$3.19	40	\$0.00	-		
Beverages: Horchata		\$1.89	25	\$3.54	\$50.79		
Beverages: Lemonade	Beverages: Lemonade			\$4.96	\$71.11		
Beverages: Tamarindo	Beverages: Tamarindo			\$1.42	\$20.32		
				Total			

B Price \$2.99 \$3.99	C Sales Tax Quantity 15 10	D Sales Tax \$3.36	E 7.5% Total \$48.21			
\$2.99	Quantity 15	\$3.36	Total \$48.21			
\$2.99	15	\$3.36	\$48.21			
\$3.99	10					
		#VALUE!	\$42.89			
Empanada						
les: C Without the dollar sign (\$), the reference to						
eted as a	\$168,373.03	\$73.85				
o incorre	ect results	#VALUE!	\$31.07			
		\$8,388,398.3	\$53.54			
\$3.19	40	I=(B10*C10)*E10	\$127.60			
\$1.89	25	\$396,354,176.00	\$50.79			
Beverages: Lemonade \$1.89 35						
\$1.89	10	\$7,491,094,819.49	\$20.32			
		Total				
	\$3.19 \$1.89 \$1.89	eted as a relative o incorrect results \$3.19 40 \$1.89 25 \$1.89 35	state \$168,373.03 o incorrect results #VALUEI \$8,388,398.29 \$8,388,398.29 \$3.19 40 I=(B10*C10)*E10 \$1.89 25 \$396,354,176.00 \$1.89 35 #VALUEI \$1.89 10 \$7,491,094,819.49			

Using cell references with multiple worksheets

Excel allows you to refer to any cell on any **worksheet**, which can be especially helpful if you want to reference a specific value from one worksheet to another. To do this, you'll simply need to begin the cell reference with the **worksheet name** followed by an **exclamation point** (!). For example, if you wanted to reference cell **A1** on **Sheet1**, its cell reference would be **Sheet1!A1**.

Note that if a worksheet name contains a **space**, you will need to include **single quotation marks** (' ') around the name. For example, if you wanted to reference cell **A1** on a worksheet named **July Budget**, its cell reference would be **'July Budget'!A1**.

To reference cells across worksheets:

In our example below, we'll refer to a cell with a calculated value between two worksheets. This will allow us to use the **exact same value** on two different worksheets without rewriting the formula or copying data between worksheets.

 Locate the cell you want to reference, and note its worksheet. In our example, we want to reference cell **E14** on the **Menu Order worksheet**.

	A	В	С	D	E
5	Empanadas: Black Bean & Plantain	\$2.49	20	\$3.74	\$53.54
6	Tamales: Chicken Tinga	\$2.29	20	\$3.44	\$49.24
7	Tamales: Vegetable	\$2.29	30	\$5.15	\$73.85
8	Arepas: Carnitas	\$2.89	10	\$2.17	\$31.07
9	Arepas: Queso Blanco	\$2.49	20	\$3.74	\$53.54
10	Empanadas: Apple Cinnamon	\$3.19	40	\$9.57	\$137.17
11	Beverages: Horchata	\$1.89	25	\$3.54	\$50.79
12	Beverages: Lemonade	\$1.89	35	\$4.96	\$71.11
13	Beverages: Tamarindo	\$1.89	10	\$1.42	\$20.32
14				Total	\$587.65
15					
16					
	Menu Order Catering Invoid	e	÷		

 Navigate to the desired worksheet. In our example, we'll select the Catering Invoice worksheet.

12	Beverages: Lemo	\$1.89	35	\$4.96	\$71.11		
13	Beverages: Tama	\$1.89	10	\$1.42	\$20.32		
14					Total	\$587.65	
15							
16							

 Type the equals sign (=), the sheet name followed by an exclamation point (!), and the cell address. In our example, we'll type ='Menu Order'!E14.

SU	SUM ▼ : X ✓ fx ='Menu Order'!E14							
		A					В	С
1	То	tal (Cost f	for R	equ	ested Serv	/ices	
2	Menu Iter	ns				='Menu Or	der'!E14 I	
	Paper Items (Plates,							
3	silverware, cups)					\$110.87		
	Rental For	iinm	ent (Table	s			
4	Rental Equipment (Tables, Chairs, Linens)				,,,		\$249.95	
	Service Fe	e (1	8% of	f mei	nu			
5	items ordered)					\$113.63		
6	Total Cost						\$1,105.72	
7								
	4 - F	Mer	u Ord	er	Cater	ring Invoice	\oplus	

- 3. The **selected worksheet** will appear.
- Locate and select the cell where you want the value to appear. In our example, we'll select cell B2.

B2	$2 \rightarrow f_x$		
	Α	В	С
1	Total Cost for Requ	uested Services	
2	Menu Items	<u>д</u>	
	Paper Items (Plates,		
3	silverware, cups)	\$110.87	
	Rental Equipment (Tables,		
4	Chairs, Linens)	\$249.95	
	Service Fee (18% of menu		
5	items ordered)	\$0.00	
6	Total Cost	\$360.82	
7			
	 ↔ Menu Order Cater 	ng Invoice 🛞 🕀	

Press Enter on your keyboard. The value of the referenced cell will appear. If the value of cell E14 changes on the Menu Order worksheet, it will be updated automatically on the Catering Invoice worksheet.

B2	\bullet : $\times \checkmark f_x$	='Menu Order'!E14	
4	А	В	с
1	Total Cost for Requ	lested Services	
2	Menu Items	\$587.65	
	Paper Items (Plates,		
3	silverware, cups)	\$110.87	
	Rental Equipment (Tables,		
4	Chairs, Linens)	\$249.95	
	Service Fee (18% of menu		
5	items ordered)	\$113.63	
6	Total Cost	\$1,105.72	
7			
	Menu Order Cate	ring Invoice 🕂	

If you **rename** your worksheet at a later point, the cell reference will be updated automatically to reflect the new worksheet name.

If you enter a worksheet name incorrectly, the **#REF!** error will appear in the cell. In our example below, we've mistyped the name of the worksheet. Click

the **Error** button * and select the desired option from the drop-down menu to **edit** or **ignore** the error.

	\bullet : $\times \checkmark f_{\rm K}$:	='menuorder'!B15
	A	В
Лепи	Items 🔸 🔹	#REF!
a	Invalid Cell Reference Error	
ilv	Help on this error	
lei	Show <u>C</u> alculation Steps	
:h	Ignore Error	
er	Edit in Eormula Bar	
e	Error Checking Options	#REF!
otal (Cost	#REF!

Chapter-13 Functions

Introduction

A **function** is a **predefined formula** that performs calculations using specific values in a particular order. Excel includes many common functions that can be useful for quickly finding the **sum**, **average**, **count**, **maximum value**, and **minimum value** for a range of cells. In order to use functions correctly, you'll need to understand the different **parts of a function** and how to create **arguments** to calculate values and cell references.

The parts of a function

Working with arguments

for the function.

In order to work correctly, a function must be written a specific way, which is called the **syntax**. The basic syntax for a function is the **equals sign (=)**, the **function name** (SUM, for example), and one or more **arguments**. Arguments contain the information you want to calculate. The function in the example below would add the values of the cell range A1:A20.



С	DUNTA -	:	\times	~	$f_{\mathcal{K}}$	=AVE	RAC	GE(B1:B9))	
	А				в					с
1							5			
2							8			
з							9			
4							7			
5							5			
6							1			
7							3			
8							2			
9							7			
10			=AV	ERAC	GE(B	1:B9)				
11										

For example, the function **=AVERAGE(B1:B9)** would calculate the **average** of the values in the cell range B1:B9. This function

Arguments can refer to both **individual cells** and **cell ranges** and must be enclosed within **parentheses**. You can include one argument or multiple arguments, depending on the syntax required

contains only one argument.

Multiple arguments must be separated by a **comma**. For example, the function **=SUM(A1:A3, C1:C2, E1)** will **add** the values of all the cells in the three arguments.

СС	DUNTA 🔻	: × 🗸	∫ _∞ =SUM	(A1:A3,C1:C2,	E1)	
	А	В	С	D	E	F
1	7		5		15	
2	4		12			
з	23					
4						
5	=SUM(A1:A	3,C1:C2,E1)			
6						

Creating a function

Excel has a variety of functions available. Here are some of the most common functions you'll use:

- **SUM**: This function **adds** all of the values of the cells in the argument.
- **AVERAGE**: This function determines the **average** of the values included in the argument. It calculates the sum of the cells and then divides that value by the number of cells in the argument.
- **COUNT**: This function **counts** the number of cells with numerical data in the argument. This function is useful for quickly counting items in a cell range.
- MAX: This function determines the highest cell value included in the argument.
- MIN: This function determines the lowest cell value included in the argument.

To create a basic function:

In our example below, we'll create a basic function to calculate the **average price per unit** for a list of recently ordered items using the AVERAGE function.

C	1 • <i>F</i> : × <i>f</i>				
	Α	В	С	D	E
1	Food Supply Inventory Or	ders (Non-	Perishable Iter	ns)	
2	Item	Quantity	Price Per Unit	Total Cost	Date Ordered
3	Tomatoes (case of 12)	3	\$17.44	\$52.32	
4	Black Beans (case of 10)	5	\$20.14	\$100.70	
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25	
6	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45	
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95	
8	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64	
9	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76	
10	Vegetable Wash (1 gallon)	2	\$8.99	\$17.98	
11	Average Price	e Per Unit	÷.		
12			Total Cost		

- 1. Select the **cell** that will contain the function. In our example, we'll select cell **C11**.
- Type the equals sign (=) and enter the desired function name. You can also select the desired function from the list of suggested functions that will appear below the cell as you type. In our example, we'll type =AVERAGE.

			E	=AVERAG	DUNTA \checkmark : $\times \checkmark f_x$	СС
	Е	D	С	В	A	
		ns)	Perishable Iter	ders (Non-	Food Supply Inventory Or	1
dered	Date Order	Total Cost	Price Per Unit	Quantity	Item	2
		\$52.32	\$17.44	3	Tomatoes (case of 12)	3
		\$100.70	\$20.14	5	Black Beans (case of 10)	4
		\$70.25	\$14.05	5	All Purpose Flour (50 lb.)	5
		\$93.45	\$18.69	5	Corn Meal/Maza (25 lb.)	6
		\$54.95	\$10.99	5	Brown Rice (25 lb.)	7
		\$101.64	\$8.47	12	Salsa, Medium (1 gallon)	8
		\$114.76	\$28.69	4	Olive Oil (2.5 gallon)	9
		\$17.98	\$8.99	2	Vegetable Wash (1 gallon)	10
			=AVERAGE]	e Per Unit	Town the found on more	11
tic mean)	age (arithmetic n	Returns the ave	AVERAGE			12
			AVERAGEIF		of suggested functions	13 14
-	age (arithme	\$17.98	\$8.99 =AVERAGE [& AVERAGE & AVERAGEA	2	Vegetable Wash (1 gallon) Type the function name or select it from the list	10 11 12 13

 Press Enter on your keyboard. The function will be calculated, and the result will appear in the cell. In our example, the average price per unit of items ordered was \$15.93.

C1	1 \cdot : $\times \checkmark f_x$	=AVERAG	E(C3:C10)		
	А	В	С	D	E
1	Food Supply Inventory Or	ders (Non-	Perishable Iter	ns)	
2	Item	Quantity	Price Per Unit	Total Cost	Date Ordered
3	Tomatoes (case of 12)	3	\$17.44	\$52.32	
4	Black Beans (case of 10)	5	\$20.14	\$100.70	
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25	
6	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45	
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95	
8	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64	
9	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76	
10	Vegetable Wash (1 gallon)	2	\$8.99	\$17.98	
11	Average Price	e Per Unit	\$15.93		
12			Total Cost		
13					

 Enter the cell range for the argument inside parentheses. In our example, we'll type (C3:C10). This formula will add the values of cells C3:C10 and then divide that value by the total number of cells in the range to determine the average.

C	DUNTA 🔻 : 🗙 🖌 $f_{\!x}$	=AVERAG	E(C3:C10)		
	A	В	С	D	E
1	Food Supply Inventory Or	ders (Non-	Perishable Iter	ns)	
2	ltem	Quantity	Price Per Unit	Total Cost	Date Ordered
3	Tomatoes (case of 12)	3	\$17.44	\$52.32	
4	Black Beans (case of 10)	5	\$20.14	\$100.70	
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25	
6	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45	
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95	
8	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64	
9	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76	
10	Vegetable Wash (1 gallon)	2	\$8.99	\$17.98	
11	Average Price	e Per Unit	=AVERAGE(C3:	C10) I	
12			Total Cost		
13					

Excel **will not always tell you** if your formula contains an error, so it's up to you to check all of your formulas. To learn how to do this, read the **Double-Check Your Formulas** lesson from our **Excel Formulas** tutorial.

To create a function using the AutoSum command:

The **AutoSum** command allows you to automatically insert the most common functions into your formula, including SUM, AVERAGE, COUNT, MIN, and MAX. In our example below, we'll create a function to calculate the **total cost** for a list of recently ordered items using the SUM function.

 Select the cell that will contain the function. In our example, we'll select cell D12.

D	$12 \forall : \times \checkmark f_x$				
	Α	В	с	D	E
1	Food Supply Inventory Or	-	-		L
2	Item	Quantity	Price Per Unit	Total Cost	Date Ordered
3	Tomatoes (case of 12)	3	\$17.44	\$52.32	
4	Black Beans (case of 10)	5	\$20.14	\$100.70	
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25	
6	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45	
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95	
8	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64	
9	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76	
10	Vegetable Wash (1 gallon)	2	\$8.99	\$17.98	
11	Average Price	e Per Unit	\$15.93		
12			Total Cost	¢	
13					

2. In the **Editing** group on the **Home** tab, locate and select the **arrow** next to the **AutoSum** command and then choose the **desired function** from the drop-down menu. In our example, we'll select **Sum**.



 Press Enter on your keyboard. The function will be calculated, and the result will appear in the cell. In our example, the sum of D3:D11 is \$606.05.

D	12 • : × ✓ f _x	=SUM(D3	:D11)		
	А	В	С	D	E
1	Food Supply Inventory Or	ders (Non-	Perishable Iter	ns)	
2	ltem	Quantity	Price Per Unit	Total Cost	Date Ordered
з	Tomatoes (case of 12)	3	\$17.44	\$52.32	
4	Black Beans (case of 10)	5	\$20.14	\$100.70	
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25	
6	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45	
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95	
8	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64	
9	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76	
10	Vegetable Wash (1 gallon)	2	\$8.99	\$17.98	
11	Average Price	e Per Unit	\$15.93		
12			Total Cost	\$606.05	
13					

You can also use the **Alt+=** keyboard shortcut instead

of the AutoSum command. To use this shortcut, hold

down the Alt key and then press the equals sign.

See below to learn more about the different types of

functions in Excel

3. The selected **function** will appear in the cell. If logically placed, the AutoSum command will **automatically** select a cell range for the argument. In our example, cells **D3:D11** were selected automatically and their values will be **added** together to calculate the total cost. You can also manually enter the desired cell range into the argument.

С	JUNTA -	: 🗙 🖌 fx	=SUM(D3	:D11)		
		A	В	С	D	E
1	Food Su	pply Inventory Or	ders (Non-	Perishable Iter	ns)	
2		ltem	Quantity	Price Per Unit	Total Cost	Date Ordered
3	Tomatoes	s (case of 12)	3	\$17.44	\$52.32	
4	Black Bea		-	\$20.14	\$100.70	
5	All Purpo	The cell range is	selected	\$14.05	\$70.25	
6	Corn Mea			\$18.69	\$93.45	
7	Brown Ri	location of the	function	\$10.99	\$54.95	
8	Salsa, Me	aium (1 gailon)	12	\$8.47	\$101.64	
9	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76	
10	Vegetable	e Wash (1 gallon)	2	\$8.99	\$17.98	
11		Average Price	e Per Unit	\$15.93		
12				Total Cost	=SUM(D3:	D11)
13					SUM(numbe	r1, [number2],)
14						

The **AutoSum** command can also be accessed from the **Formulas** tab on the **Ribbon**.



x 🗉 📃	ار ک	<i>∂</i> - :	÷								
FILE	ном	IE IN	ISERT	PAGE LAYOU	JT FORM	IULAS	DATA	REVIEW	VIEW		
$\int_{\substack{\text{Insert}\\ \text{Function}}}$			ntly Financ	ial Logical	 Time 	Lookup & Reference		More Functions +	Name Manager	■ Define Nan → Use in Form ■ Create from Defined Name	nula - n Selection
A1	-	: [× ~	f_{∞}							
	A	в	С	D	E	F	G	н	1	J	к
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3											
4											
5											
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10											
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SARVA EDUCATION (SITED) (An I.T & Skill Advancement Training Programme)

FILE f_x Insert

HILE

HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW	FILE HOME INSERT PAGE LAYOUT FORMULAS DATA	E INSERT PAGE LAYOUT FORMULAS DATA REVIEW
Insert Function		
	$\int x^{\vee} \sum_{i=1}^{n} A_{i} dx G_{i} dx G_{i} dx$	Recently Used
If you're having trouble finding the right function, the Insert Function command allows you to search for functions using	Insert AutoSur Command	Used The Recently Used command gives you
keywords.	Function The AutoSum command allows you to	access to functions you've recently worked
Insert Function ? ×	automatically return results for common	: > with.
Search for a function:	A1 functions, like SUM, AVERAGE, and	в ★ 🖃 ? А
Type a brief description of what you want to do and then	COUNT.	Recently Financial Logical Text
click Go		Used • • •
Or select a category: Most Recently Used		DATE
Select a function:	AutoSum Recently Financial	NETWORKDAYS
DATE NETWORKDAYS	0300	DOLLAR
DOLLAR SUM	5	SUM
COUNT PRODUCT	6 Average	COUNT
COUNTA(value1,value2,) Counts the number of cells in a range that are not empty.	7 <u>C</u> ount Numbers	PRODUCT
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To insert a function from the Function Library:

In our example below, we'll use a function to calculate the **number of business days** it took to receive items after they were ordered. In our example, we'll use the dates in columns **B** and **C** to calculate the delivery time in column **D**.

- 1. Select the **cell** that will contain the function. In our example, we'll select cell **D3**.
- 2. Click the **Formulas** tab on the **Ribbon** to access the **Function Library**.
- 3. From the **Function Library** group, select the desired **function category**. In our example, we'll choose **Date & Time**.
- Select the desired function from the drop-down menu. In our example, we'll select the NETWORKDAYS function to count the number of business days between the ordered date and received date.

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um Recently F	Financial Logical	Text	Date & Lookup	8. Math	& More
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6. When you're satisfied with the arguments, click **OK**.

	Function Arguments	? 🗙					
NETWORKDAYS							
Start_date	B3 🐹 = 41	1498					
End_date	C3 🚺 = 41	1501					
Holidays	🎫 = at	ny					
= 4 Returns the number of whole workdays between two dates. Start_date is a serial date number that represents the start date.							
Formula result = 4							
Help on this function		OK Cancel					
		1 1.1					

 The function will be calculated, and the result will appear in the cell. In our example, the result shows that it took four business days to receive the order.

D3 ▼ : × √ fx =NETWORKDAYS(B3,C3)									
	А	В	С	D	Е				
1	Food Supply Inventory Orders (Non-Perishable Items)								
2	ltem	Date Ordered	Date Received	Delivery Time					
з	Tomatoes (case of 12)	12-Aug-13	15-Aug-13	4					
4	Black Beans (case of 10)	12-Aug-13	17-Aug-13						
5	All Purpose Flour (50 lb.)	12-Aug-13	14-Aug-13						
6	Corn Meal/Maza (25 lb.)	12-Aug-13	15-Aug-13						
7	Brown Rice (25 lb.)	12-Aug-13	15-Aug-13						
8	Salsa, Medium (1 gallon)	19-Aug-13	23-Aug-13						
9	Olive Oil (2.5 gallon)	19-Aug-13	24-Aug-13						
10	Vegetable Wash (1 gallon)	19-Aug-13	21-Aug-13						
11									

□ D3 v : × √ fx								
2	A	В	С	D	Е			
1	Food Supply Inventory Orders (Non-Perishable Items)							
2	Item	Date Ordered	Date Received	Delivery Time				
3	Tomatoes (case of 12)	12-Aug-13	15-Aug-13	¢				
4	Black Beans (case of 10)	12-Aug-13	17-Aug-13					
5	All Purpose Flour (50 lb.)	12-Aug-13	14-Aug-13					
6	Corn Meal/Maza (25 lb.)	12-Aug-13	15-Aug-13					
7	Brown Rice (25 lb.)	12-Aug-13	15-Aug-13					
8	Salsa, Medium (1 gallon)	19-Aug-13	23-Aug-13					
9	Olive Oil (2.5 gallon)	19-Aug-13	24-Aug-13					
10	Vegetable Wash (1 gallon)	19-Aug-13	21-Aug-13					
11								

 The Function Arguments dialog box will appear. From here, you'll be able to enter or select the cells that will make up the arguments in the function. In our example, we'll enter B3 in the Start date: field and C3 in the End date: field.

HOME INSERT PAGE	LAYOUT	FORMULAS DATA	PD//DA/	VIEW		
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A	В	DAYS		D	E	F
Food Supply Inve	ntory Or	DAYS360	le Items	5)		
Item	Date Or	EDATE	ed Deli	very Tim	e	
atoes (case of 12)	12-4	EOMONTH	13			
k Beans (case of 10)	12-4	HOUR	13			
urpose Flour (50 lb.)	12-A	ISOWEEKNUM	13			
n Meal/Maza (25 lb.)	12-A	MINUTE	13			
wn Rice (25 lb.)	12-A	MONTH	13			
a, Medium (1 gallon)	19-A	NETWORKDAYS	13			
e Oil (2.5 gallon)	19- <i>F</i>	NETWORKDAYS.IF	NETWORKDA	VS(start dat	te,end date,ho	idays)
etable Wash (1 gallon)	19-4	NOW		_	ole workdays be	· ·
		SECOND	two dates.	inser of white	ore workdays be	concert
		TIME	🕜 Tell me m	ore		
		TIMEVALUE	•			



Like formulas, functions can be copied to adjacent cells. Hover the mouse over the **cell** that contains the function, then click, hold, and drag the **fill handle** over the cells you want to fill. The function will be copied, and values for those cells will be calculated relative to their rows or columns.

The Insert Function command

If you're having trouble finding the right function, the **Insert Function** command allows you to search for functions using **keywords**. While it can be useful, this command is sometimes difficult to use. If you don't have much experience with functions, you may have more success browsing the **Function Library** instead. For more **advanced users**, however, the Insert Function command can be a powerful way to find a function quickly.

To use the Insert Function command:

In our example below, we want to find a function that will count the total number of **items** ordered. We want to count the cells in the **Item** column, which uses text. We cannot use the basic COUNT function because it will only count cells with numerical information. Instead, we will need to find a function that counts the **total number of cells** within a cell range.

1. Select the **cell** that will contain the function. In our example, we'll select cell **B16**.

В1	\bullet \bullet \vdots \times \checkmark f_{x}					
4	А	В	с	D	E	F
	Food Supply Inventory Or	ders (Non	Perishable Iter	ns)		
2	ltem	Quantity	Price Per Unit	Total Cost	Date Ordered	
3	Tomatoes (case of 12)	3	\$17.44	\$52.32		
4	Black Beans (case of 10)	5	\$20.14	\$100.70		
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25		
5	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45		
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95		
3	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64		
9	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76		
0	Vegetable Wash (1 gallon)	2	\$8.99	\$17.98		
1	Average Price	e Per Unit	\$15.93			
2			Total Cost	\$606.05		
3						
4						
5	Inventory Order Sum	-				
6	Total Items Ordered	<u> </u>				
7	Most Expensive Item					
8	Average Shipping Time					
9						

2. Click the Formulas tab on the Ribbon, then select the Insert Function command.

FILE	ном	e inser	T PAG	E LAYOL	UTF	ORMULAS	DATA	REVIEW
fx	N	*			A			
Inser	t 🗟 AutoSu	m Recently	Financial L	ogical	Text D	ate & Look	up & Matl	h& More
Functi	on 👻	Used -	-	*	- T	ime ∗ Refere	nce Trio	Functions
			F	unction	Library			-
Inco	rt Function (Ch:64 . E2)						
inse	refunction	,5mmt+r5)	fs	ic				
Worl	with the fo	mula in the						
	ent cell. You				В	c		D
	tions to use a to fill out the			rders	(Non	-Perisha	ble Iten	ns)
0	Fell me mor			Qua	antity	Price P	er Unit	Total Cost
· · ·	unatues		12]		3	\$	17.44	\$52.32

- 3. The **Insert Function** dialog box will appear.
- 4. Type a few keywords describing the calculation you want the function to perform, then click Go. In our example, we'll type Count cells, but you can also search by selecting a category from the drop-down list.
- Review the **results** to find the desired function, then click **OK**. In our example, we'll choose **COUNTA** because it will count the number of cells in a cell range.



		- 62 -
	Insert Function	? ×
earch for a function:		
count cells Or select a <u>c</u> ategory: select a functio <u>n</u> :	Date & Time	<u>⊆</u> ∘ √
DATE DATEVALUE DAY DAYS DAYS360 EDATE	Enter search terms then click Go	
EOMONTH DATE(year,month,da Returns the number t code.	y) Ihat represents the date in Mi	✓ crosoft Excel date-time
lelp on this function		OK Cancel

- The Function Arguments dialog box will appear. Select the Value1: field, then enter or select the desired cells. In our example, we'll enter the cell range A3:A10. You may continue to add arguments in the Value2: field, but in this case we only want to count the number of cells in the cell range A3:A10.
- 7. When you're satisfied, click **OK**.



8. The function will be **calculated**, and the **result** will appear in the cell. In our example, the result shows that a total of **eight items** were ordered.

B16 ▼ : × ✓ fx =COUNTA(A3:A10)										
	А	В	с	D	E	F				
1	Food Supply Inventory Or	ders (Non	Perishable Iter	ns)						
2	ltem	Quantity	Price Per Unit	Total Cost	Date Ordered					
3	Tomatoes (case of 12)	3	\$17.44	\$52.32						
4	Black Beans (case of 10)	5	\$20.14	\$100.70						
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25						
6	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45						
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95						
8	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64						
9	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76						
0	Vegetable Wash (1 gallon)	2	\$8.99	\$17.98						
1	Average Price	e Per Unit	\$15.93							
12			Total Cost	\$606.05						
3										
4										
15	Inventory Order Sum	mary		The in	serted function					
16	Total Items Ordered	8		and c	alculated value					
17	Most Expensive Item									
18	Average Shipping Time									
9										

Chapter-14 Freezing Panes and View Options

Introduction

Whenever you're working with a lot of data, it can be difficult to **compare** information in your workbook. Fortunately, Excel includes several tools that make it easier to view content from different parts of your workbook at the same time, such as the ability to **freezepanes** and **split** your worksheet.

To freeze rows:

You may want to see certain rows or columns all the time in your worksheet, especially **header cells**. By **freezing** rows or columns in place, you'll be able to scroll through your content while continuing to view the frozen cells.

- Select the row below the row(s) you want to freeze. In our example, we want to freeze rows 1 and 2, so we'll select row 3.
- 2. Click the **View** tab on the **Ribbon**.
- 3. Select the **Freeze Panes** command, then choose **Freeze Panes** from the drop-down menu.



A	3 • E 🗙	$\checkmark f_x$	Albertson, Ka	thy		
	А	В	С	D	E	F
1			Westbrool	k Parker Sale	es Data	
2	Salesperson	May	June	July	Aug.	Sept.
3	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	\$8,237.00
4	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	\$10,185.00
5	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	\$13,452.00
6	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	\$4,404.00

 The rows will be frozen in place, as indicated by the gray line. You can scroll down the worksheet while continuing to view the frozen rows at the top. In our example, we've scrolled down to row 18.

orma H(abo	tom Gridli and 2 are frove this line	✓ Formula nes ✓ Headings ozen		Selection V	New Arrange Vindow All
	A	в	С	D	E	F
1			Westbroo	k Parker Sale	es Data	
2	Salesperson	🕈 May	June	July	Aug.	Sept.
18	Hodges, Melissa	\$5,667.00	\$4,798.00	\$8,420.00	\$1,389.00	\$10,468.00
19	Jameson, Robins	\$4,269.00	\$4,459.00	\$2,248.00	\$1,058.00	\$6,267.00
		da 502.00	¢4 172 00	¢11 074 00	¢1 202 00	\$2.365.00
20	Kellerman, Franco	\$3,502.00	\$4,172.00	\$11,074.00	\$1,202.00	\$2,505.00

To freeze columns:

- Select the column to the right of the column(s) you want to freeze. In our example, we want to freeze column A, so we'll select column B.
- 2. Click the View tab on the Ribbon.
- Select the Freeze Panes command, then choose Freeze Panes from the dropdown menu.

B2	• • E ×	√ f _x				
	А	B +	С	D	E	F
1			Westbrook Parker Sales Data			
2	Salesperson	May	June	July	Aug.	Sept.
3	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	\$8,237.00
4	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	\$10,185.00
5	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	\$13,452.00
6	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	\$4,404.00



4. The column will be **frozen** in place, as indicated by the **gray line**. You can **scroll across** the worksheet while continuing to view the frozen column on the left. In our example, we've scrolled across to column **E**.

К1	. • el	$\sqrt{-f_x}$						
	А	E		F	G		H	1
1		Parker Sale	es E	Data				
2	Salesperson	Aug.		Sept.	Oct.	Nov.		Dec.
3	Albertson, Kathy	\$1,117.00	\$	8 237 00	\$8 690 00	¢3.0	47.00	\$3,947.00
4	Allenson, Carol	\$1,100.00	\$1		A is frozen to	the	11.00	\$4,411.00
5	Altman, Zoey	\$2,116.00	\$1	lefi	of this line		21.00	\$2,521.00
6	Bittiman, William	\$1.089.00	Ś	4.404.00	\$20,114.00	\$4.7	52.00	\$4,752.00

If you only need to freeze the **top row** (row 1) or **first column** (column A) in the worksheet, you can simply select **Freeze Top Row** or **Freeze First Column** from the drop-down menu.







Other view options

If your workbook contains a lot of content, it can sometimes be difficult to compare different sections. Excel includes additional options to make your workbooks easier to view and compare. For example, you can choose to **open a new window** for your workbook or **split a worksheet** into separate panes.

To open a new window for the current workbook:

Excel allows you to open **multiple windows** for a single workbook at the same time. In our example, we'll use this feature to compare two different **worksheets** from the same workbook.

- 1. Click the View tab on the Ribbon, then select the New Window command.
- 2. A **new window** for the workbook will appear.





3. You can now compare different worksheets from the same workbook across windows. In our example, we'll select the **2013 Sales Detailed View** worksheet to compare the **2012** and **2013** sales.

X						ta 2012-2013:1		? 📧		×				
A1		: .				rook Parker S			IOTES	~				
	A		В	С		DE		F	G					
1			West	tbrook Parl	ker S	ales Data: 20	12							
2	Salesperson		May	June	X	5-	0.	₩estbrook	Parker S	ales Da	ita 2012-201	3:2 - Excel	? 📧	-
3	Albertson, Ka	thy	\$3,947.00	\$557.00			INSER	DAGELAV				REVIEW V	/IFW Javier	Flores
4	Allenson, Car			\$1,042.00		HOWE	INSER	FAJELAN		UNIVIUL	JAJ DATA	NEVIEW	Javier	TIOLES
5	Altman, Zoey			\$3,072.00		-	і. г	a	e .		1.0.1			
6	Bittiman, Wil			\$3,755.00		1 ×		XV	f _x	Westb	rook Parke	er Sales Da	ta: 2013	
7	Brennan, Mic			\$3,152.00		Α		В	C		D	E	F	
8	Carlson, Davi			\$4,056.00										· · · ·
9	Collman, Har			\$4,906.00				West	brook	Parker	r Sales Dat	a: 2013		
10	Counts, Elizal	beth	\$4,670.00		<u> </u>	Salesperson		Мау		June	July	Aug.	Sept.	
11	David, Chloe			\$3,428.00	3	Albertson, Ka	thy	\$8,237.00	\$8,69	00.00	\$3,863.00	\$1,117.00	\$8,937.00	\$7,
	< >	2012 S	ales Detai	led View	4	Allenson, Car	ol	\$10,185.00	\$18,74	9.00	\$9,355.00	\$1,100.00	\$9,185.00	\$19,
REA	.DY				5	Altman, Zoey		\$13,452.00					\$15,252.00	
					6	Bittiman, Wil				_		\$1,089.00		
					7	Brennan, Mic		\$3,170.00				\$1,122.00	\$3,894.00	
					8	Carlson, David		\$8,817.00				\$1,135.00	\$4,897.00	
					9	Collman, Hari		\$13,090.00					\$12,054.00	
					10	Counts, Elizat	eth	\$3,528.00				\$1,024.00		
					11	David, Chloe							37,894.00	
						\leftarrow \rightarrow	2012	Sales Detaile	d View	20)13 Sales D	etailed Vie	ew 🤄	Ь
					RE/	NDY.						— —	_	-+

If you have several windows open at the same time, you can use the **Arrange All** command to rearrange them guickly.



To split a worksheet:

Sometimes you may want to compare different sections of the same workbook without creating a new window. The **Split** command allows you to **divide** the worksheet into multiple panes that scroll separately.

- 1. Select the **cell** where you want to split the worksheet. In our example, we'll select cell **C7**.
- 2. Click the **View** tab on the **Ribbon**, then select the **Split** command.



C7	▼ ± × √ j	£ 3152			
	А	В	С	D	E
1		W	estbrook P	arker Sales	Data
2	Salesperson	May	June	July	Aug.
3	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00
4	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00
5	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00
6	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00
7	Brennan, Michael	\$4,964.00	\$ 3,152.00	\$11,601.00	\$1,122.00
8	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00
9	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00

 The workbook will be **split** into different **panes**. You can scroll through each pane separately using the **scroll bars**, allowing you to compare different sections of the workbook.

C7	• : ×	√ f:	× 3152					-
	А		В	С		D	Е	
1			w	estbrook P	arke	r Sales	Data	
2	Salesperson	Th	e worksheet v	vill be oplified	-	July	Aug.	
3	Albertson, Kath		arate panes. \			863.00	\$1,117.00	-
4	Allenson, Carol	In	dividual acroi through ea		I	355.00	\$1,100.00	
5	Altman, Zoey		through ea	ach pane		702.00	\$2,116.00	
6	Bittiman, Willia	m	\$4,752.00	\$3,755.00	\$4,	415.00	\$1,089.00	Ŧ
28	Smith, Harold		\$5, <mark>421.00</mark>	\$4,728.00	\$7,	158.00	\$1,116.00	-
29	Thomas, Robert	t	\$3, <mark>2</mark> 59.00	\$3,679.00	\$8,	406.00	\$2,123.00	
30	Thompson, Sha	nnon	\$2,943.00	\$3,943.00	\$11,	987.00	\$1,183.00	-
4	· 2013	÷ : [()	1				F

After creating a split, you can click and drag the vertical and horizontal dividers to change the size of each section.

To remove the split, click the **Split** command again.

Chapter-15 Sorting Data

Introduction

As you add more content to a worksheet, organizing this information becomes especially important. You can quickly **reorganize** a worksheet by **sorting** your data. For example, you could organize a list of contact information by last name. Content can be sorted alphabetically, numerically, and in many other ways.

Types of sorting

When sorting data, it's important to first decide if you want the sort to apply to the **entire worksheet** or just a **cell range**.

- Sort sheet organizes all of the data in your worksheet by one column. Related information across each row is kept together when the sort is applied. In the example below, the Contact Name column (column A) has been sorted to display the names in alphabetical order.
- **Sort range** sorts the data in a range of cells, which can be helpful when working with a sheet that contains several tables. Sorting a range will not affect other content on the worksheet.

	А	В	С	D
1		Custom	er Contac	et List
2	CONTACT NAME	BILLING ADDRESS	PHONE	EMAIL ADDRESS
3	Bell, William	2201 Treasure Court	206-555-2303	wbell@bishopresearch.com
4	Dean, Hank	3034 Foggy Wharf	308-555-1050	hdean@venturebrewing.com
5	Figgis, Mallory	3520 Sleepy Hearth Dr	425-555-5370	malloryf@archerproperties.com
6	Finn, Jake	1407 Dusty Fawn Ln	605-555-6435	jake@adventureoutfitters.com
7	Kinkade, Chris	1028 Quiet Dale Rd	443-555-4942	chris.kinkade@placervilleins.com
8	Lawson, Miranda	5316 Colonial Pkwy	575-555-9255	mlawson@massairlines.com
9	Reyes, Felicia	8544 Lazy Bluff Ave	316-555-3256	felicia@everlypublishing.com
10	Sebastian, Lil	9060 Easy Evening Ln	207-555-7225	lil@knopeequestrian.com
11	Silva, Vivica	8595 Thunder Brook	360-555-4289	vivica@rileygardensupply.com
12	Stark, Katie	971 Cinder Butterfly St	603-555-2460	katie.stark@ariarealestate.com
13	Torrance, Jill	3160 Amber Gate Rd	605-555-4495	jtorrance@overlookinn.com
14	Yuen, Phillip	5108 Crystal Gate Blvd	913-555-5928	yuenp@corepharmaceuticals.com

	A	В	С	D	E
1					
2	EXERCISES				2
3		REPS	WEIGHT (Ibs)	REPS	WEIGHT (lbs)
4	Bench Press	14	65	12	75
5	Bench Press (Decline)	10	60	8	70
6	Triceps Extension	15	35	20	35
7	Average	13.9	50.5	12.5	54
8					
9			Running Lo	g	
10		Date	Distance (miles)	Time (hrs:mins)	
11		25-Jun	2.8	0:45	
12		26-Jun	3	0:44	
13		27-Jun	2.75	0:42	
14		29-Jun	3.25	0:44	
15		30-Jun	3.25	0:45	
16		2-Jul	2.5	0:44	
17		3-Jul	3	0:30	
18		Total	20.55		
19					

To sort a sheet:

In our example, we'll sort a T-shirt order form alphabetically by ${\bf Last}\ {\bf Name}\ ({\rm column}\ {\bf C}).$

1. Select a **cell** in the column you want to sort by. In our example, we'll select cell **C2**.

2. Select the **Data** tab on the **Ribbon**, then click

the **Ascending** command $2 \downarrow$ to Sort A to Z, or the **Descending** command $4 \downarrow$ to Sort Z to A. In our example, we'll click the **Ascending** command.

FORMULAS	DATA	REVIEW	VIE	W
Refresh All •	ties nks Å↓		Filter	Clear
Connections		S	ort & Fil	ter

3.	The worksheet will be sorted by the selected column. In	
	our example, the worksheet is now sorted by last name .	

C2	▼ :	$\times \checkmark f_x$	Ackerman			
	А	В	С	D	E	F
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method	
2	110	Kris	Ackerman	Large	Money Order	
3	105	Nathan	Albee	Medium	Check	
4	220-B	Samantha	Bell	Medium	Check	
5	110	Matt	Benson	Medium	Money Order	
6	105	Christiana	Chen	Medium	Cash	
7	110	Gabriel	Del Toro	Medium	Cash	
8	220-A	Brigid	Ellison	Small	Cash	
9	220-A	Juan	Flores	X-Large	Pending	
10	220-B	Tyrese	Hanlon	X-Large	Debit Card	

	A	В	С	D	E	
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method	
2	105	Christiana	Chen 🗘	Medium	Cash	
3	105	Melissa	White	Small	Debit Card	
4	105	Esther	Yaron	Small	Check	
5	135	Anisa	Naser	Small	Check	
6	135	Chantal	Weller	Medium	Cash	
7	220-A	Juan	Flores	X-Large	Pending	
8	220-B	Malik	Reynolds	Small	Cash	
9	220-B	Avery	Kelly	Medium	Debit Card	
10	105	Derek	MacDonald	Large	Cash	

In our example, we'll select a **separate table** in our T-shirt order form to sort the number of shirts that were ordered on

Select the Data tab on the Ribbon, then click

Select the cell range you want to sort. In our example,

To sort a range:

1.

2.

different dates.

5R	x 2C 🔻 : 🗙	√ <i>f</i> _x Date		
	A	В	С	D
1	Homeroom #	First Name	Last Name	T-Shirt Size
2	110	Kris	Ackerman	Large
3	105	Nathan	Albee	Medium
4	220-B	Samantha	Bell	Medium
5	110	Matt	Benson	Medium
6	105	Christiana	Chen	Medium
7	110	Gabriel	Del Toro	Medium
8	220-A	Brigid	Ellison	Small
9	220-A	Juan	Flores	X-Large
10	220-B	Tyrese	Hanlon	X-Large
11				
12	Total Orders	By Date		
13	Date	Orders		
14	Friday, April 05, 2013	4		
15	Friday, April 12, 2013	7		
	Friday, April 19, 2013	10		
17	Friday, April 26, 2013	ት 6		
18				

the Sort command.

FORMULAS DATA REVIEW VIEW Connections Clear C E Properties Reapply Refresh Sort Filter Ζļ 🏷 Advanced 🖳 Edit Links All -

we'll select cell range A13:B17.

- Decide the sorting order (either ascending or descending). In our example, we'll use Smallest to Largest.
- 5. Once you're satisfied with your selection, click \mathbf{OK} .

		Sort		?	×
* <mark>A</mark> ↓ <u>A</u> dd	Level 🗙 Delete Level	E Copy Level 🔺 🔻	Option	s 🗹 My data has <u>h</u> e	aders
Column		Sort On		Order	
Sort by	Orders 🗸 🗸	Values	~	Smallest to Largest	¥

the sort.

If your data isn't sorting properly, double-check your cell values to make sure they are entered into the worksheet correctly. Even a small typo could cause problems when sorting a large worksheet. In the example below, we forgot to include a hyphen in cell

	А	В	С	D
1	Homeroom #	First Name	Last Name	T-Shirt Size
16	135	Jordan	Weller	Large
17	135	Alex	Yuen	Large
18	220A	Christopher	Peyton-Gomez	Small
19	220-A	Brigid	Ellison	Small
20	220-A	Juan	Flores	X-Large
21	220-A	Chevonne	Means	Medium

Custom sorting

Sometimes you may find that the default sorting options can't sort data in the order you need. Fortunately, Excel allows you to create a **custom list** to define your own sorting order.

	the Soft command.
3.	The Sort dialog box will appear. Choose the column you want to sort by. In our example, we want to sort the data by the number of T-shirt orders, so we'll select Orders .

		Sort		? ×
* <u>A</u> ↓ <u>A</u> dd	Level X Delete Level	E Copy Level	▼ Options ✓	My data has <u>h</u> eaders
Column		Sort On	Order	
Sort by	Orders	Values	Smallest to L	argest 🗸
			01	Cancel

 The cell range will be sorted by the selected column. In our example, the Orders column will be sorted from lowest to highest. Notice that the other content in the worksheet was not affected by

B1	7 * : ×	√ <i>f</i> _x 10		
	A	В	С	D
1	Homeroom #	First Name	Last Name	T-Shirt Size
2	110	Kris	Ackerman	Large
3	105	Nathan	Albee	Medium
4	220-B	Samantha	Bell	Medium
5	110	Matt	Benson	Medium
6	105	Christiana	Chen	Medium
7	110	Gabriel	Del Toro	Medium
8	220-A	Brigid	Ellison	Small
9	220-A	Juan	Flores	X-Large
10	220-B	Tyrese	Hanlon	X-Large
11				
12	Total Orders	By Date		
13	Date	Orders		
14	Friday, April 05, 2013	4		
15	Friday, April 26, 2013	6		
16	Friday, April 12, 2013	7		
17	Friday, April 19, 2013	10		
10			T	

A18, causing our sort to be slightly inaccurate.



To create a custom sort:

In our example below, we want to sort the worksheet by **T-Shirt Size** (column **D**). A regular sort would organize the sizes alphabetically, which would be incorrect. Instead, we'll create a custom list to sort from smallest to largest.

 Select a cell in the column you want to sort by. In our example, we'll select cell D2.

2.	Select the D	ata tab,	then	click
	the Sort com	mand.		

D2	· ·	$\times \checkmark f_x$	Large			
	А	В	С	D	E	F
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method	
2	110	Kris	Ackerman	Large 🖧	Money Order	
3	105	Nathan	Albee	Medium	Check	
4	220-B	Samantha	Bell	Medium	Check	
5	110	Matt	Benson	Medium	Money Order	
6	105	Christiana	Chen	Medium	Cash	
7	110	Gabriel	Del Toro	Medium	Cash	
8	220-A	Brigid	Ellison	Small	Cash	
9	220-A	Juan	Flores	X-Large	Pending	
10	220-B	Tyrese	Hanlon	X-Large	Debit Card	

	FORMULAS	DATA		REVIEW	VIE	W
	Refresh All -	ties	2↓ ∡↓	Sort	Filter	Clear Reapply Advanced
- 1	Connections				Cost 9. Ei	ltor

 The Sort dialog box will appear. Select the column you want to sort by, then choose Custom List... from the Order field. In our example, we will choose to sort by T-Shirt Size.



 Click Add to save the new sort order. The new list will be added to the Custom lists: box. Make sure the new list is selected, then click OK.



 The worksheet will be **sorted** by the custom order. In our example, the worksheet is now organized by T-shirt size from smallest to largest.

	А	В	С	D	E	F
1					Payment Method	
2	220-A	Brigid	Ellison	Small	Cash	
З	220-B	Michael	Lazar	Small	Cash	
4	135	Anisa	Naser	Small	Pending	
5	220-A	Christopher	Peyton-Gomez	Small	Check Bounced	
6	220-B	Malik	Reynolds	Small	Cash	
7	220-B	Windy	Shaw	Small	Cash	
8	105	Melissa	White	Small	Debit Card	
9	105	Esther	Yaron	Small	Check	
10	105	Nathan	Albee	Medium	Check	
11	220-B	Samantha	Bell	Medium	Check	
12	220-B	Avery	Kelly	Medium	Debit Card	
13	220-A	Chevonne	Means	Medium	Money Order	
14	135	James	Panarello	Medium	Check	
15	135	Chantal	Weller	Medium	Cash	
16	110	Kris	Ackerman	Large	Money Order	
17	105	Derek	MacDonald	Large	Cash	

- The **Custom Lists** dialog box will appear.
- 4. The **Custom Lists** dialog box will appear. Select **NEW LIST** from the **Custom Lists:** box.
- Type the items in the desired custom order in the List entries: box. In our example, we want to sort our data by T-shirt size from smallest to largest, so we'll type Small, Medium, Large, and X-Large, pressing Enter on the keyboard after each item.

	Custom Lists		? ×
Custom Lists			
Custom Jists: NEW LIST Sun, M. n. Tue, Wed, Thu, Fri, ! Sunday, Monday, Tuesday, We Jan, Fet: Mar, Apr, May, Jun, Ju January February, March, Apr	List <u>e</u> ntries: Small Medium Large X-Large	^	<u>A</u> dd Delete
Make sure NEW LIS then type the desir in the List entr	ed sort order	~	
Press Enter to separate list er	tries.		
		ОК	Cancel

 The Custom Lists dialog box will close. Click OK in the Sort dialog box to perform the custom sort.



To sort by cell formatting:

You can also choose to sort your worksheet by **formatting** rather than cell content. This can be especially helpful if you add color coding to certain cells. In our example below, we'll sort by **cell color** to quickly see which T-shirt orders have outstanding payments.

2.

1. Select a **cell** in the column you want to sort by. In our example, we'll select cell **E2**.

E2	▼ :	$\times \checkmark f_x$	Check Bounced			
	А	В	С	D	E	F
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method	
2	220-A	Christopher	Peyton-Gomez	Small	Check Bounce	
3	220-B	Malik	Reynolds	Small	Cash	
4	220-B	Windy	Shaw	Small	Cash	
5	220-B	Michael	Lazar	Small	Cash	
6	135	Anisa	Naser	Small	Pending	
7	220-A	Brigid	Ellison	Small	Cash	
8	105	Melissa	White	Small	Debit Card	
9	105	Esther	Yaron	Small	Check	
10	135	Chantal	Weller	Medium	Cash	

Select the **Data** tab, then click the **Sort** command.



 The Sort dialog box will appear. Select the column you want to sort by, then decide whether you'll sort by Cell Color, Font Color, or Cell Icon from the Sort On field. In our example, we'll sort by Payment Method(column E) and Cell Color.

E2

• : × 🗸



 Choose a color to sort by from the Order field. In our example, we'll choose light red.



 Click OK. In our example, the worksheet is now sorted by cell color, with the light red cells on top. This allows us to see which orders still have outstanding payments.

	А	В	С	D	E	F
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method	
2	220-A	Christopher	Peyton-Gomez	Small	Check Bounced	
3	105	Sidney	Kelly	Medium	Check Bounced	
4	135	Anisa	Naser	Small	Pending	
5	110	Regina	Olivera	Large	Pending	
6	220-A	Juan	Flores	X-Large	Pending	
7	135	Alex	Yuen	Large	Wrong Amount	
8	220-B	Malik	Reynolds	Small	Cash	
9	220-B	Windy	Shaw	Small	Cash	
10	220-B	Michael	Lazar	Small	Cash	

fx Check Bounced

Sorting levels

If you need more control over how your data is sorted, you can add multiple **levels** to any sort. This allows you to sort your data by **more than one column**.

To add a level:

In our example below, we'll sort the worksheet by **Homeroom Number** (column **A**), then by **Last Name** (column **C**).

1. Select a **cell** in the column you want to sort by. In our example, we'll select cell **A2**.

A2	• :	$\times \checkmark f_x$	220-В			
	Α	В	С	D	E	F
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method	
2	220-В 🛟	Malik	Reynolds	Small	Cash	
3	220-B	Windy	Shaw	Small	Cash	
4	220-B	Michael	Lazar	Small	Cash	
5	220-A	Brigid	Ellison	Small	Cash	
6	135	Chantal	Weller	Medium	Cash	
7	105	Christiana	Chen	Medium	Cash	
8	110	Gabriel	Del Toro	Medium	Cash	
9	105	Derek	MacDonald	Large	Cash	
10	135	Lia	Richards	X-Large	Cash	

2. Click the **Data** tab, then select the **Sort** command.



 The **Sort** dialog box will appear. Select the first column you want to sort by. In this example, we will sort by **Homeroom #** (column A). 4. Click **Add Level** to add another column to sort by.

		Sort			?	x
* <u>A</u> ↓ <u>A</u> dd Lev	el X <u>D</u> elete Level	🖹 Copy Level 🔺 🔻	<u>O</u> ptio	ns 🗹 My data	a has <u>h</u>	eaders
Colum	h5	Sort On		Order		
Sort by	omeroom # 🗸 🗸	Values	¥	Smallest to Largest		~
		_				
	a column to sor click Add Level	by,				
				ОК	Car	ncel

5. Select the next column you want to sort by, then click ${\sf OK}.$ In our example, we'll sort by Last Name (column C).

		Sort		?	×
⁺ A <u>A</u> dd Level X <u>D</u> elet	e Level	Level 🔺 🔻 Opt	ions 🗸	My data has <u>I</u>	<u>n</u> eaders
Column	Sort On		Order		
Sort by Homeroom #	✓ Values	~	Smallest to L	argest	~
Then by Last Name	✓ Values	~	A to Z		~
			OK	Cai	ncel

6. The worksheet will be **sorted** according to the selected order. In our example, the homeroom numbers are sorted numerically. Within each homeroom, students are sorted alphabetically by last name.

A2	· · ·	$\times \checkmark f_x$	105			
	Α	В	С	D	E	F
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method	
2	105	Nathan	Albee	Medium	Check	
3	105	Christiana	Chen	Medium	Cash	
4	105	Sidney	Kelly	Medium	Check Bounced	
5	105	Derek	MacDonald	Large	Cash	
6	105	Melissa	White	Small	Debit Card	
7	105	Esther	Yaron	Small	Check	
8	110	Kris	Ackerman	Large	Money Order	
9	110	Matt	Benson	Medium	Money Order	
10	110	Gabriel	Del Toro	Medium	Cash	

If you need to change the order of a multilevel sort, it's easy to control which column is sorted first. Simply select the desired **column**, then click the **Move Up** or **Move Down** arrow to adjust its priority.

			Sort			?	×
* <u>A</u> ↓ <u>A</u> dd	Level 🗙 <u>D</u> elete L	evel	E Copy Level	<u>O</u> ptior	ns 🗹 My data I	nas <u>h</u>	eaders
Column	[Move	Up (Ctrl+Up Arrow)		Order		
Sort by	Homeroom #	¥	Values	\checkmark	Smallest to Largest		\checkmark
Then by	T-Shirt Size	~	Values	~	Custom List		~
					ОК	Can	icel

Chapter- 16 Filtering Data

Introduction

If your worksheet contains a lot of content, it can be difficult to find information quickly. **Filters** can be used to **narrow down** the data in your worksheet, allowing you to view only the information you need.

To filter data:

In our example, we'll apply a filter to an equipment log worksheet to display only the laptops and projectors that are available for checkout.

- In order for filtering to work correctly, your worksheet should include a header row, which is used to identify the name of each column. In our example, our worksheet is organized into different columns identified by the header cells in row 1: ID#, Type, Equipment Detail, and so on.
- 2. Select the **Data** tab, then click the **Filter** command.



5. The **Filter menu** will appear.

•

6. **Uncheck** the box next to **Select All** to quickly deselect all data.

	Α	В	C		D
1	ID # 🖵	Туре	Equipment Deta	il 🔽	Checked Out 🖵
₽↓	Sort A to Z	7		ital Camera	12-May-13
۲ļ	Sort Z to A	1		Digital Camera	27-Jul-13
	Sort by Co	lor	•	al Camcorder:	06-Oct-13
_				L200-3	15-Sep-13
×	Clear Filter	r From "Type'		L200-3	14-Aug-13
	Filter by C	olor	Þ	L200-3	08-Aug-13
	Text <u>F</u> ilters	5	Þ	L200-4X	26-Sep-13
	Search		Q	otop	04-Oct-13
		+ .0.00	~	otop	19-Sep-13
		ect All) nera		otop	24-Sep-13
	Lap	top		otop	25-Aug-13
	Oth			.500-1	05-Oct-13
	Pro Pro			.500-1	01-Oct-13
	✓ Tab	let		im Printer II	04-Aug-13
				Maker	13-Jun-13
				ra Travel Bag	27-Jul-13
				.aptop Case	04-Oct-13
				Laptop Case	04-Oct-13
		ОК	Cancel		28-Sep-13
					26-Sep-13
22	6102	Projector	Omega VisX 1.0		22-Aug-13

	Α	В	С	D	E	F
1	ID #	Туре	Equipment Detail	Checked Out	Checked In	Checked Out By
2	3000	Camera	Saris Lumina Digital Camera	12-May-13	15-May-13	Shannon Nguyen
3	3005	Camera	Saris Zoom Z-60 Digital Camera	27-Jul-13	06-Aug-13	Sela Shepard
4	3070	Camera	Omega PixL Digital Camcorder	06-Oct-13		Min Seung
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-13	01-Oct-13	Sofie Ragnar
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-13	16-Aug-13	Hank Sorenson
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-13	04-Oct-13	Min Seung
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-13	26-Sep-13	George D'Agosta

- A **drop-down arrow** will appear in the header cell for each column.
- . Click the **drop-down arrow** for the column you want to filter. In our example, we will filter column **B** to view only certain types of equipment.

	Α	В	С	D	E	F
1	ID # 🖵	Туре	Equipment Detail 🗸 🗸	Checked Out 🖵	Checked In 🖵	Checked Out By 🚽
2	3000		Saris Lumina Digital Camera	12-May-13	15-May-13	Shannon Nguyen
3	3005		ype: howing All) n Z-60 Digital Camera	27-Jul-13	06-Aug-13	Sela Shepard
4	3070	Camera	Umega PixL Digital Camcorder	06-Oct-13		Min Seung
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-13	01-Oct-13	Sofie Ragnar
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-13	16-Aug-13	Hank Sorenson
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-13	04-Oct-13	Min Seung
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-13	26-Sep-13	George D'Agosta

 Check the boxes next to the data you want to filter, then click OK. In this example, we will check Laptop and Tablet to view only those types of equipment.



8. The data will be **filtered**, temporarily hiding any content that doesn't match the criteria. In our example, only laptops and tablets are visible.

4	Α	В	С	D	E	F
1	ID # 👻	Туре 🖵	Equipment Detail 🗸 🗸	Checked Out 🚽	Checked In 🖵	Checked Out By 🚽
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-13	01-Oct-13	Sofie Ragnar
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-13	16-Aug-13	Hank Sorenson
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-13	04-Oct-13	Min Seung
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-13	26-Sep-13	George D'Agosta
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-13	27-Aug-13	Jay Peralta
26	1011	Tablet	Saris SlimTab Pro	04-Aug-13		Jay Peralta
27	1012	Tablet	Saris SlimTab Pro	29-Sep-13		August Zorn
31						
32						

Filtering options can also be accessed from the **Sort & Filter** command on the **Home** tab.



To apply multiple filters:

Filters are **cumulative**, which means you can apply **multiple filters** to help narrow down your results. In this example, we've already filtered our worksheet to show laptops and projectors, and we'd like to narrow it down further to only show laptops and projectors that were checked out in August.

1. Click the **drop-down arrow** for the column you want to filter. In this example, we will add a filter to column **D** to view information by date.

	Α	В	C	D	E	F
1	ID # 🚽	Туре 🖵	Equipment Detail 🛛 🚽	i i i i i i i i i i i i i i i i i i i	· ·	Checked Out By 🖕
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-13	n1 Oct 12	Sofie Ragnar
6	1022	Laptop	15" EDI SmartPad L200-3	14 Aug 12	howing All)	Hank Sorenson
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-13	04-Oct-13	Min Seung
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-13	26-Sep-13	George D'Agosta
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-13	27-Aug-13	Jay Peralta
26	1011	Tablet	Saris SlimTab Pro	04-Aug-13		Jay Peralta
27	1012	Tablet	Saris SlimTab Pro	29-Sep-13		August Zorn
31						
32						

 The new filter will be applied. In our example, the worksheet is now filtered to show only laptops and tablets that were checked out in August.

	Α	В	С	D	E	F
1	ID# 🖵	Туре 🖵	Equipment Detail 🛛 💂	Checked Out 🖵	Checked In 🖵	Checked Out By 🖵
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-13	16-Aug-13	Hank Sorenson
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-13	27-Aug-13	Jay Peralta
26	1011	Tablet	Saris SlimTab Pro	04-Aug-13		Jay Peralta
31						
32						

- 2. The **Filter menu** will appear.
- Check or uncheck the boxes depending on the data you want to filter, then click OK. In our example, we'll uncheck everything except for August.



To clear a filter:

After applying a filter, you may want to remove—or **clear**—it from your worksheet so you'll be able to filter content in different ways.

- 1. Click the **drop-down arrow** for the filter you want
 - to clear. In our example, we'll clear the filter in column **D**.

	Α		В	С		D	E	F
1	ID #	*	Туре	Equipment Detail	¥	Checked Out	Checked In 🖵	Checked Out By 🚽
6	1022		Laptop	15" EDI SmartPad L200-3			hecked Out:	Hank Sorenson
7	1023		Laptop	15" EDI SmartPad L200-3		00 4	quals "August 201	annifer Weiss
12	1034		Laptop	17" Saris X-10 Laptop		25-Aug-13		Jay Peralta
26	1011		Tablet	Saris SlimTab Pro		04-Aug-13		Jay Peralta
31								
32								
- 2. The Filter menu will appear.
- Choose Clear Filter From [COLUMN NAME] from the Filter menu. In our example, we'll select Clear 3. Filter From "Checked Out".

	Α	В		С	D	E	F
1	ID# 🖵	Туре	T Equipme	ent Detail 🗸 🗸	Checked Out 🔐	Checked In 🖕	Checked Out By 💡
6	1022	Laptop	15" E ⊉↓	Sort Oldest to Newest		16-Aug-13	Hank Sorenson
7	1023	Laptop	15" E Z J	Sort Newest to Oldest		15-Aug-13	Jennifer Weiss
	1034	Laptop	17" 5	Sort by Color	+	27-Aug-13	Jay Peralta
	1011	Tablet	10" 5	Clear Filter From "Check			Jay Peralta
31			*	-	10		
32			_	Filter by Color			
33				Date <u>Filters</u>	+		
34			_	Search (All)	۷		
35			~				
36				■ 2013			
37				🔅 🗹 August			
38 39				September October			
39 40				Cuper			
40 41							
41 42							
42 43							
45 44							
45				OK	Cancel		
46				04	currer		
47			_				

The filter will be cleared from the column. The 4. previously hidden data will be displayed.

	Α	В	С	D	E	F
1	ID # 🚽	Туре 🧊	Equipment Detail 🚽		· · · · · · · · · · · · · · · · · · ·	Checked Out By 🚽
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-13	ecked Out:	Sofie Ragnar
6	1022	Laptop	15" EDI SmartPad L200-3	14 Aug 12	howing All)	Hank Sorenson
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-13	04-Oct-13	Min Seung
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-13	26-Sep-13	George D'Agosta
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-13	27-Aug-13	Jay Peralta
26	1011	Tablet	Saris SlimTab Pro	04-Aug-13		Jay Peralta
27	1012	Tablet	Saris SlimTab Pro	29-Sep-13		August Zorn
31						
32						

To remove all filters from your worksheet, click the Filter command on the Data tab.

FORMULAS	DATA	REVIEW	VIEW		
Refresh All + Connect	ies z	AL	Filter		
Connections		Sort & Filter			

Advanced filtering

If you need to filter for something specific, basic filtering may not give you enough options. Fortunately, Excel includes many advanced filtering tools, including search, text, date, and number filtering, which can narrow your results to help find exactly what you need.

To filter with search:

Excel allows you to search for data that contains an exact phrase, number, date, and more. In our example, we'll use this feature to show only Saris brand products in our

equipment log.

- Select the **Data** tab, then click 1. the **Filter** command. A **dropdown arrow** will appear in the header cell for each column. Note: If you've already added filters to your worksheet, you can skip this step.
- Click the **drop-down arrow** for 2. the column you want to filter. In our example, we'll filter column C.
- 3. The **Filter menu** will appear. Enter a **search term** into the **search box**. Search results will appear automatically below the **Text Filters** field as you type. In our example, we'll type **saris** to find all Saris brand equipment.
- When you're done, click **OK**. 4.

	Α	В	С	D	E	F
1	ID # 👻	Туре 🖵	Equipment Detail	Checked Out 🖵	Checked In 🖵	Checked Out By 🖵
2	3000	Camera		12-May-13	15-May-13	Shannon Nguyen
3	3005	Camera		quipment Detail: Showing All)	06-Aug-13	Sela Shepard
4	3070	Camera	Omega PixL Digital Camcorder	00-001-13		Min Seung
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-13	01-Oct-13	Sofie Ragnar
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-13	16-Aug-13	Hank Sorenson
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-13	04-Oct-13	Min Seung
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer

	Α	В	С	D	E	F	
1	ID # 👻	Type 🥃 Equipment 🛛	Detail 🗾 👻	Checked Out 🖵	Checked In 🖵	Checked Out By 🚽	
2	3000	<u>∮</u> ↓ <u>S</u> ort A to Z		12-May-13	15-May-13	Shannon Nguyen	
3	3005	Sort Z to A		27-Jul-13	06-Aug-13	Sela Shepard	
4	3070	Sort by Color		06-Oct-13		Min Seung	
5	1021	1		15-Sep-13	01-Oct-13	Sofie Ragnar	
6	1022	🕵 🖸 Clear Filter From "Equi	pment Detail"	14-Aug-13	16-Aug-13	Hank Sorenson	
7	1023	Filter by Color	Þ	08-Aug-13	15-Aug-13	Jennifer Weiss	
8	1025	Text Eilters				Min Seung	
9	1031	saris		nter a search	term.	Nick Ortiz	
10	1032			then click O		Stanley Geyer	
11	1033	✓ (Select All Search Add current sele			3	George D'Agosta	
12	1034	17" Saris X-10 Lar		25-Aug-13	27-Aug-13	Jay Peralta	
13	2050	Saris Lumina Dig	ital Camera 🛛 🖊	05-Oct-13	06-Oct-13	Anthony Liddell	
14	2051	Saris Lux T-80		01-Oct-13	05-Oct-13	Sofie Ragnar	
15	3800	Saris Lux T-81 Lite		04-Aug-13	05-Aug-13	Hank Sorenson	
16	3900	Saris Zoom Z-60		13-Jun-13	20-Jun-13	Clint Gosse	
17	4800	🗹 🗹 U-Go Saris DigiC		27-Jul-13	06-Aug-13	Sela Shepard	
18	4900	U-Go Saris Label	Maker	04-Oct-13		Jay Peralta	
19	4905			04-Oct-13		Nick Ortiz	
20	6100	OK	Cancel	28-Sep-13	01-Oct-13	Win Armitage	
21	6101	L	.:	26-Sep-13	27-Sep-13	Michael Earley	
22	6102	Projector Omega VisX	1.0	22-Aug-13	23-Aug-13	Jamila Kyle	

 The worksheet will be **filtered** according to your search term. In our example, the worksheet is now filtered to show only Saris brand equipment.

	A	В	C	D	E	F
1	ID # 👻	Туре 🚽	Equipment Detail 🗾 📑	Checked Out 🖵	Checked In 🖵	Checked Out By 🖵
2	3000	Camera	Saris Lumina Digital Camera	12-May-13	15-May-13	Shannon Nguyen
3	3005	Camera	Saris Zoom Z-60 Digital Camera	27-Jul-13	06-Aug-13	Sela Shepard
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-13	26-Sep-13	George D'Agosta
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-13	27-Aug-13	Jay Peralta
15	3800	Other	U-Go Saris DigiCam Printer II	04-Aug-13	05-Aug-13	Hank Sorenson
16	3900	Other	U-Go Saris Label Maker	13-Jun-13	20-Jun-13	Clint Gosse
23	6200	Projector	Saris Lux T-80	01-Sep-13	04-Sep-13	Jolie Chaturvedi
24	6301	Projector	Saris Lux T-81 Lite	10-Sep-13		Marques Herndon
25	6302	Projector	Saris Lux T-81 Lite	08-Sep-13	15-Sep-13	Dean Sorenson
26	1011	Tablet	Saris SlimTab Pro	04-Aug-13		Jay Peralta
27	1012	Tablet	Saris SlimTab Pro	29-Sep-13		August Zorn
31						
32						

To use advanced text filters:

Advanced text filters can be used to display more specific information, such as cells that contain a certain number of characters, or data that excludes a specific word or number. In our example, we've already filtered our worksheet to only show items with **Other** in the Type column, but we'd like to exclude any item containing the word **case**.

- Select the Data tab, then click the Filter command. A dropdown arrow will appear in the header cell for each column. Note: If you've already added filters to your worksheet, you can skip this step.
- Click the drop-down arrow for the column you want to filter. In our example, we'll filter column C.

	Α	В	С	D	E	F
1	ID # 👻	Туре 🖵	Equipment Detail	Checked Out 🖵	Checked In 🚽	Checked Out By
13	2050	Other	EDI SmartBoard L500-1)05-Oct-13	06-Oct-13	Anthony Liddell
14	2051	Other	EDI SmartBoard L500-1	uipment Detail: nowing All)	05-Oct-13	Sofie Ragnar
15	3800	Other	U-Go Saris DigiCam Printer II			Hank Sorenson
16	3900	Other	U-Go Saris Label Maker	13-Jun-13	20-Jun-13	Clint Gosse
17	4800	Other	7N Deluxe Camera Travel Case	27-Jul-13	06-Aug-13	Sela Shepard
18	4900	Other	7N Light Rolling Laptop Case	04-Oct-13		Jay Peralta
19	4905	Other	7N Heavy Rolling Laptop Case	04-Oct-13		Nick Ortiz
31						

 The Filter menu will appear. Hover the mouse over Text Filters, then select the desired text filter from the drop-down menu. In our example, we'll choose Does Not Contain... to view data that does not contain specific text.



 The Custom AutoFilter dialog box will appear. Enter the desired text to the right of the filter, then click OK. In our example, we'll type case to exclude any items containing this word.

Custom AutoFilter		x
 v rows where: iquipment Detail		
does not contain 🗸 case		¥
● <u>A</u> nd ○ <u>O</u> r		
×		v
? to represent any single character * to represent any series of characters	Cancel	

5. The data will be filtered by the selected text filter. In our example, our worksheet now displays items in the **Other** category that do not contain the word **case**.

	Α	В	С	D	E	F	
1	ID # 🚽	Туре 🖵	Equipment Detail 📮	Checked Out 🖵	Checked In 🖵	Checked Out By 💂	
13	2050	Other	EDI SmartBoard L500-1	05-Oct-13	06-Oct-13	Anthony Liddell	
14	2051	Other	EDI SmartBoard L500-1	01-Oct-13	05-Oct-13	Sofie Ragnar	
15	3800	Other	U-Go Saris DigiCam Printer II	04-Aug-13	05-Aug-13	Hank Sorenson	
16	3900	Other	U-Go Saris Label Maker	13-Jun-13	20-Jun-13	Clint Gosse	
31							

To use advanced date filters:

Advanced date filters can be used to view information from a certain time period, such as last year, next quarter, or between two dates. In this example, we will use advanced date filters to view only equipment that has been checked out today.

- Select the **Data** tab, then click the **Filter** command. A **drop-down arrow** will appear in the header cell for each column. Note: If you've already added filters to your worksheet, you can skip this step.
- Click the drop-down arrow for the column you want to filter. In our example, we will filter column D to view only a certain range of dates.

	A	В	C	D	E	F
1	ID # 👻	Туре 💂	Equipment Detail 🗾 🚽	Checked Out	Checked In 🖵	Checked Out By 🚽
2	3000	Camera	Saris Lumina Digital Camera	12-May-1	hecked Out:	Shannon Nguyen
3	3005	Camera	Saris Zoom Z-60 Digital Camera	27-Jul-1	showing All)	Sela Shepard
4	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-13	01-Oct-13	Sofie Ragnar
5	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-13	16-Aug-13	Hank Sorenson
6	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
7	3070	Camera	Omega PixL Digital Camcorder	06-Oct-13		Min Seung
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-13	04-Oct-13	Min Seung
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-13	26-Sep-13	George D'Agosta
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-13	27-Aug-13	Jay Peralta

3. The **Filter menu** will appear. Hover the mouse over **Date Filters**, then select the desired date filter from the drop-down menu. In our example, we'll select **Today** to view equipment that has been checked out on today's date.

	Α	В	С	D	E	F
1	ID # 🖵	Туре 🚽	Equipment Detail 🚽	Checked Out 💂	Checked In 🖵	Checked Out By 🖵
2	3000	Camera	Saris AJ Sort Oldest to Newest		15-May-13	Shannon Nguyen
3	3005	Camera	Saris Z Sort Newest to Oldest		06-Aug-13	Sela Shepard
4	3070	Camera	Ome Sort by Color	•		Min Seung
5	1021	Laptop	15" E	10.4	01-Oct-13	Sofie Ragnar
6	1022	Laptop	15" E 🔽 Clear Filter From "Checke	ed Out	16-Aug-13	Hank Sorenson
7	1023	Laptop	15" E Filter by Color	+	15-Aug-13	Jennifer Weiss
8	1025	Laptop	15" E Date <u>Filters</u>		Equals	
	1031	Laptop	17" Search (All)	۶v	Before	
	1032	Laptop	17" 5	· 1	After	ir.
	1033	Laptop	2013			osta
	1034	Laptop	17" 5 🕢 May		Between	
		Other	EDI S 🕢 🗹 June		Tomorrow	lell
	2051	Other	EDI S 🔄 🗹 July		Today	
	3800	Other	U-GC		Yester <u>d</u> ay	2 on
	3900	Other	U-GC 🕢 U-GC			
	4800	Other	7N D		Next Wee <u>k</u>	
	4900	Other	7N L		T <u>h</u> is Week	
	4905	Other	7N H		Last Week	
	6100	Projector	Ome OK	Cancel	Next Month	2
	6101	Projector	Ome		_	۶Y
22	6102	Projector	Omega VisX 1.0	22-Aug-13	Thi <u>s</u> Month	

 The worksheet will be filtered by the selected date filter. In our example, we can now see which items have been checked out today.

	Α	В	С	D	E	F
1	ID#	Туре 🚽	Equipment Detail	Checked Out 🔐	Checked In 📮	Checked Out By 🖵
7	3070	Camera	Omega PixL Digital Camcorder	06-Oct-13		Min Seung
31						
32						

If you're working along with the example file, your results will be different from the images above. If you want, you can change some of the dates so the filter will give more results.

To use advanced number filters:

Advanced number filters allow you to manipulate numbered data in different ways. In this example, we will display only certain types of equipment based on the range of ID numbers.

- 1. Select the **Data** tab on the Ribbon, then click the **Filter** command. A **drop-down arrow** will appear in the header cell for each column. Note: If you've already added filters to your worksheet, you can skip this step.
- 2. Click the **drop-down arrow** for the column you want to filter. In our example, we'll filter column **A** to view only a certain range of ID numbers.

	Α	A B C		D	E	F
1	ID#	Туре	Equipment Detail 🚽 🚽	Checked Out 🚽	Checked In 🖵	Checked Out By 🚽
	2000	ID#:	Saris Lumina Digital Camera	12-May-13	15-May-13	Shannon Nguyen
3	3005	(Showing All)	Saris Zoom Z-60 Digital Camera	27-Jul-13	06-Aug-13	Sela Shepard
4	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-13	01-Oct-13	Sofie Ragnar
5	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-13	16-Aug-13	Hank Sorenson
6	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss
7	3070	Camera	Omega PixL Digital Camcorder	06-Oct-13		Min Seung
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-13	04-Oct-13	Min Seung
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-13		Nick Ortiz
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-13		Stanley Geyer
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-13	26-Sep-13	George D'Agosta
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-13	27-Aug-13	Jay Peralta

3. The **Filter menu** will appear. Hover the mouse over **Number Filters**, then select the desired number filter from the drop-down menu. In our example, we will choose **Between** to view ID numbers between a specific number range.

	Α	В		С		D	E	F			
1	ID # 🖵	Туре	Equipment D	eta	il 🔽	Checked Out 🖵	Checked In 🖵	Checked Out By			
₽↓	<u>S</u> ort Smal	lest to Largest			ital Camera	12-May-13	15-May-13	Shannon Nguyen			
1	Sort Large	st to Smallest			Digital Camera	27-Jul-13	06-Aug-13	Sela Shepard			
	Sort by Co				al Camcorder:	06-Oct-13		Min Seung			
_				·	L200-3	15-Sep-13	01-Oct-13	Sofie Ragnar			
×	<u>C</u> lear Filte	r From "ID #"			L200-3	14-Aug-13	16-Aug-13	Hank Sorenson			
	Filter by C	olor		ŀ	L200-3	08-Aug-13	15-Aug-13	Jennifer Weiss			
	Number F	ilters		F	Equals)4-Oct-13	Min Seung			
	0.1		م		Does Not E	-		Nick Ortiz			
	Search						_	Stanley Geyer			
		lect All)			<u>G</u> reater Th	an	26-Sep-13	George D'Agosta			
					Greater Th	an <u>O</u> r Equal To	27-Aug-13	Jay Peralta			
	102	-				Less Than.		06-Oct-13	Anthony Liddell		
	···· 🗹 102				Less Than i	Or Equal To)5-Oct-13	Sofie Ragnar			
	···· 🗹 102	-								or Eguar ro)5-Aug-13
	√ 102 √ 103	-			Between		20-Jun-13	Clint Gosse			
	10				<u>T</u> op 10	-0)6-Aug-13	Sela Shepard			
	···· 🗹 10			~	Above Ave	rage		Jay Peralta			
					Below Ave	age		Nick Ortiz			
		OK	Cancel			2)1-Oct-13	Win Armitage			
_					Custom <u>F</u> il	ter	27-Sep-13	Michael Earley			
22	6102	Projector	Omega VisX 1	0		22-Aug-13	23-Aug-13	Jamila Kyle			

4. The **Custom AutoFilter** dialog box will appear. Enter the desired **number(s)** to the right of each filter, then click **OK**. In our example, we want to filter for ID numbers greater than or equal to **3000** but less than or equal to **4000**, which will display ID numbers in the 3000-4000 range.

Custom AutoFilter ? ×	
Show rows where: ID #	
is greater than or equal to 💙 3000 🗸	1
● <u>A</u> nd ○ <u>O</u> r	
is less than or equal to 🗸 🗸 4000 🗸]
Use ? to represent any single character Use * to represent any series of characters	

5. The data will be filtered by the selected number filter. In our example, only items with an ID number between **3000** and **4000** are visible.

	А	В	С	D	E	F
1	ID # 🖵	Туре 🚽	Equipment Detail 🚽	Checked Out 🖵	Checked In 🚽	Checked Out By 🚽
2	3000	Camera	Saris Lumina Digital Camera	12-May-13	15-May-13	Shannon Nguyen
3	3005	Camera	Saris Zoom Z-60 Digital Camera	27-Jul-13	06-Aug-13	Sela Shepard
4	3070	Camera	Omega PixL Digital Camcorder	06-Oct-13		Min Seung
15	3800	Other	U-Go Saris DigiCam Printer II	04-Aug-13	05-Aug-13	Hank Sorenson
16	3900	Other	U-Go Saris Label Maker	13-Jun-13	20-Jun-13	Clint Gosse
31						

Chapter-17 Groups and Subtotals

Introduction

Worksheets with a lot of content can sometimes feel overwhelming and even become difficult to read. Fortunately, Excel can organize data in **groups**, allowing you to easily **show** and **hide** different sections of your worksheet. You can also summarize different groups using

the **Subtotal** command and create

an **outline** for your worksheet.

click the **Ungroup** command.

DATA

Ê

Text to

FORMULAS

Filter

Sort & Filter

Clear

Reapply

AGE LAYOUT

A Z A Z A

Z↓ Sort

To group rows or columns:

- Select the rows or columns you want to group. In this example, we'll select columns A, B, and C.
- 2. Select the **Data** tab on the **Ribbon**, then click the **Group** command.

A1	▼ :	$\times \checkmark f_x$	Homeroom #		
	А	В	+ c	D	Е
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
2	220-B	Malik	Reynolds	Small	7-Oct
3	105	Melissa	White	Small	14-Oct
4	220-B	Windy	Shaw	Small	Pending
5	105	Esther	Yaron	Small	7-Oct
6	220-A	Brigid	Ellison	Small	7-Oct
7	220-B	Michael	Lazar	Small	7-Oct
8	135	Anisa	Naser	Small	Pending
9	220-A	Christopher	Peyton-Gomez	Small	14-Oct
10	105	Christiana	Chen	Medium	5-Oct

PAGE LAYOUT FORMULAS DAT	ra review view	Javier Flores
2↓ XA Z↓ Sort Filter V Clear V Reapply V Advanced	Image: Plash Fill Image: Plash Fill Image: Plash Fill	ध्वि Group ▼ *∃ वि Ungroup ▼ "⊒ E Subtotal
Sort & Filter	Data Tools	Outline 🖬

To **ungroup** data, select the grouped rows or columns, then

REVIEW VIEW

📰 Flash Fill

Value Columns 🔂 Data Validation 👻 🖷 Relationships

∃+■ Consolidate

Remove Duplicates 🐺 What-If Analysis 🖷

Data Tools

 The selected rows or columns will be grouped. In our example, columns A, B, and C are grouped together.

1				_	
	А	В	С	D	Е
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
2	220-B	Malik	Reynolds	Small	7-Oct
3	105	Melissa	White	Small	14-Oct
4	220-B	Windy	Shaw	Small	Pending
5	105	Esther	Yaron	Small	7-Oct
6	220-A	Brigid	Ellison	Small	7-Oct
7	220-B	Michael	Lazar	Small	7-Oct
8	135	Anisa	Naser	Small	Pending
9	220-A	Christopher	Peyton-Gomez	Small	14-Oct
10	105	Christiana	Chen	Medium	5-Oct

To hide and show groups:

Javier Flores

🗐 Group 🔹

Subtotal

Outline

🔄 Ungroup 🔻 📑

1. To hide a group, click the **Hide Detail** button

1				-	
	А	В	С	D	E
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
2	220-B	Malik	Reynolds	Small	7-Oct
3	105	Melissa	White	Small	14-Oct
4	220-B	Windy	Shaw	Small	Pending
5	105	Esther	Yaron	Small	7-Oct
6	220-A	Brigid	Ellison	Small	7-Oct
7	220-B	Michael	Lazar	Small	7-Oct
8	135	Anisa	Naser	Small	Pending
9	220-A	Christopher	Peyton-Gomez	Small	14-Oct
10	105	Christiana	Chen	Medium	5-Oct

The group will be hidden. To show a hidden group, click the Show
 Detail button +.

1	+			
	D	E	F	G
1	T-Shirt Size	Payment Date		
2	Small	7-Oct		
3	Small	14-Oct		
4	Small	Pending		
5	Small	7-Oct		
6	Small	7-Oct		
7	Small	7-Oct		
8	Small	Pending		
9	Small	14-Oct		
10	Medium	5-Oct		

Creating subtotals

The **Subtotal** command allows you to automatically **create groups** and use common functions like SUM, COUNT, and AVERAGE to help **summarize** your data. For example, the **Subtotal** command could help to calculate the cost of office supplies by type from a large inventory order. It will create a hierarchy of groups, known as an **outline**, to help organize your worksheet.

To create a subtotal:

In our example, we will use the Subtotal command with a T-shirt order form to determine how many T-shirts were ordered in each size (Small, Medium, Large, and X-Large). This will create an **outline** for our worksheet with a **group** for each T-shirt size and then **count** the total number of shirts in each group.

 First, sort your worksheet by the data you want to subtotal. In this example, we will create a subtotal for each T-shirt size, so our worksheet has been sorted by T-shirt size from smallest to largest.

D2	· ·	$\times \checkmark f_x$	Small		
	A	В	С	D	E
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
2	220-B	Malik	Reynolds	Small	7-Oct
3	105	Melissa	White	Small	14-Oct
4	220-B	Windy	Shaw	Small	Pending
5	105	Esther	Yaron	Small	7-Oct
6	220-A	Brigid	Ellison	Small	7-Oct
7	220-B	Michael	Lazar	Small	7-Oct
8	135	Anisa	Naser	Small	Pending
9	220-A	Christopher	Peyton-Gomez	Small	14-Oct
10	105	Christiana	Chen	Medium	5-Oct
11	105	Sidney	Kelly	Medium	11-Oct
12	105	Nathan	Albee	Medium	5-Oct

2. Select the **Data** tab, then click the **Subtotal** command.



- The Subtotal dialog box will appear. Click the drop-down arrow for the At each change in: field to select the column you want to subtotal. In our example, we'll select T-Shirt Size.
- Click the drop-down arrow for the Use function: field to select the function you want to use. In our

example, we'll select **COUNT** to count the number of shirts ordered in each size.

- 5. In the **Add subtotal to:** field, select the **column** where you want the **calculated subtotal** to appear. In our example, we'll select **T-Shirt Size**.
- 6. When you're satisfied with your selections, click **OK**.



7. The worksheet will be **outlined** into **groups**, and the **subtotal** will be listed below each group. In our example, the data is now grouped by T-shirt size, and the number of shirts ordered in that size appears below each group.

1	2 3		А	В	С	D	Е
		1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
Γ	ſ.	2	220-B	Malik	Reynolds	Small	7-Oct
	·	3	105	Melissa	White	Small	14-Oct
	·	4	220-B	Windy	Shaw	Small	Pending
	·	5	105	Esther	Yaron	Small	7-Oct
	·	6	220-A	Brigid	Ellison	Small	7-Oct
	·	7	220-B	Michael	Lazar	Small	7-Oct
	·	8	135	Anisa	Naser	Small	Pending
	·	9	220-A	Christopher	Peyton-Gomez	Small	14-Oct
	-	10			Small Count	8	
	ſ.	11	105	Christiana	Chen	Medium	5-Oct
	·	12	105	Sidney	Kelly	Medium	11-Oct
	·	13	105	Nathan	Albee	Medium	5-Oct
	·	14	110	The subtotals a	in the sector of	Medium	11-Oct
	·	15	220-B	new rows below		Medium	13-Oct
	·	16	135	new rows below	veden group	Medium	11-Oct
	·	17	135	Chantal	weller	Medium	11-Oct
	·	18	220-A	Chevonne	Means	Medium	13-Oct
	·	19	110	Matt	Benson 📕	Medium	15-Oct
	·	20	220-B	Samantha	Bell	Medium	15-Oct
	-	21			Medium Count	10	

To view groups by level:

When you create subtotals, your worksheet it is divided into different **levels**. You can switch between these levels to quickly control how much information is displayed in the worksheet by clicking

the **Level** buttons $\begin{bmatrix} 1 & 2 & 3 \end{bmatrix}$ to the left of the worksheet. In our example, we'll switch between all three levels in our outline. While this example contains only three levels, Excel can accommodate up to eight.

 Click the **lowest level** to display the least detail. In our example, we'll select **level 1**, which contains only the **grand count**, or total number of T-shirts ordered.

1 2 3		A	В	С	D	E
63	1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
+	33			Grand Count	27	
	34					
	35					

 Click the next level to expand the detail. In our example, we'll select level 2, which contains each subtotal row but hides all other data from the worksheet.

1	2 3		A	В	С	D	E
	3	1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
Γ	+	10			Small Count	8	
	+	21			Medium Count	10	
	+	27			Large Count	5	
	+	32			X-Large Count	4	
-		33			Grand Count	27	
		34					

You can also use the **Show** and **Hide Detail** buttons to show and hide the groups within the outline.

1	2	3		А	В	С	D	E
			1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
	+]	10			Small Count	8	
	+]	21			Medium Count	10	
	ſ	•	22	110	Kris	Ackerman	Large	Pending
			23	135	Jordan	Weller	Large	1-Oct
		÷	24	135	Alex	Yuen	Large	5-Oct
			25	105	Derek	MacDonald	Large	1-Oct
		•	26	110	Regina	Olivera	Large	Pending
	-	K	27			Large Count	5	
	+	h	32			X-Large Count	4	
-]		33			Grand Count	27	
			34					

 Click the highest level to view and expand all of your worksheet data. In our example, we'll select level 3.

1	2	3		А	В	С	D	E
		13	1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Date
Γ	[2	220-B	Malik	Reynolds	Small	7-Oct
			3	105	Melissa	White	Small	14-Oct
			4	220-B	Windy	Shaw	Small	Pending
			5	105	Esther	Yaron	Small	7-Oct
			6	220-A	Brigid	Ellison	Small	7-Oct
			7	220-B	Michael	Lazar	Small	7-Oct
			8	135	Anisa	Naser	Small	Pending
			9	220-A	Christopher	Peyton-Gomez	Small	14-Oct
	-		10			Small Count	8	
	[11	105	Christiana	Chen	Medium	5-Oct
		•	12	105	Sidney	Kelly	Medium	11-Oct
			13	105	Nathan	Albee	Medium	5-Oct

To remove subtotals:

Sometimes you may not want to keep subtotals in your worksheet, especially if you want to reorganize data in different ways. If you no longer want to use subtotaling, you'll need **remove it** from your worksheet.

1. Select the **Data** tab, then click the **Subtotal** command.

FOR	MULAS	DATA	A RE	VIEW VIEW			Javier Flore
	📉 Clear			📴 Flash Fill	∃ +■ Consolidate	년문 Group 🔻	*3
.∎ Filter	Reapp	bly	Text to	Remove Duplicates	🔄 What-If Analysis 🛪	🖉 Ungroup	-
Filter	🏹 Advar	nced	Columns	; 😸 Data Validation 🔹	🖷 Relationships	E Subtotal	
Sort & Fi	lter			Data Tools		Gutline	Fa

3. All worksheet data will be **ungrouped**, and the subtotals will be **removed**.

To remove all groups without deleting the subtotals, click the **Ungroup** command drop-down arrow, then choose **Clear Outline**.

년昌 Group 🔹	+3
🗐 Ungroup 🔫	
년 <u>U</u> ngroup	
<u>C</u> lear Outli	ne
	12

 The Subtotal dialog box will appear. Click Remove All.



Chapter-18 Tables

Introduction

Once you've entered information into a worksheet, you may want to format your data as a **table**. Just like regular formatting, tables can improve the **look and feel** of your workbook, but they'll also help to **organize** your content and make your data easier to use. Excel includes several **tools** and **predefined table styles**, allowing you to create tables quickly and easily.

To format data as a table:

- Select the cells you want to format as a table. In our example, we'll select the cell range A4:D10.
- From the Home tab, click the Format as Table command in the Styles group.

	Α	В	С	D	E
1 2 3		Congibello TISAN PASTA INVOICE	Date: Invoice #: Customer:	11/13/10 145-10 Café Aurora	
4	Quantity	Description	Unit Price	Line Total	
5	5	Fettuccini, Black Bean Flavor	\$12.00	\$60.00	
6	7	Fettuccini, Sundried Tomato Flavor	\$10.00	\$70.00	
7	9	Fettuccini, Thai Basil Flavor	\$10.00	\$90.00	
8	6	Penne, Roasted Red Pepper Flavor	\$14.00	\$84.00	
9	3	Penne, Massaman Curry Flavor	\$14.00	\$42.00	
10	4	Penne, Wild Mushroom Flavor	\$15.00	\$60.00	
11					

REVIEW VIEW				
General	Ŧ	≠		
\$ • % • * .00	.00. →.0	Conditional Formatting *		
Number	- G		Styles	

3. Select a **table style** from the drop-down menu.

6.

	► The second se
Conditional Formatting •	Format as Cell Insert Delete Format Sort & Find &
	Light
н	
	Table Style Light 3
	Medium

- A dialog box will appear, confirming the selected cell range for the table.
- If your table has headers, check the box next to My table has headers, then click OK.



The cell range will be formatted in the selected table style.

	A B	С	D	E
1	Mongibello	Date: Invoice #:	11/13/10 145-10	
3 4	Quantity Description	Customer: Vinit Price	Café Aurora Line Total	
5	5 Fettuccini, Black Bean Flavor	\$12.00	\$60.00	
6	7 Fettuccini, Sundried Tomato Flavor	\$10.00	\$70.00	
7	9 Fettuccini, Thai Basil Flavor	\$10.00	\$90.00	
8	6 Penne, Roasted Red Pepper Flavor	\$14.00	\$84.00	
9	3 Penne, Massaman Curry Flavor	\$14.00	\$42.00	
10	4 Penne, Wild Mushroom Flavor	\$15.00	\$60.00	
44				

Tables include **filtering** by default. You can filter your data at any time using the **drop-down arrows** in the header cells. To learn more, review our lesson on **Filtering Data**.

Modifying tables

It's easy to modify the look and feel of any table after adding it to a worksheet. Excel includes different options for customizing a table, including **adding rows or columns** and changing the **table style**.

To add rows or columns to a table:

If you need to fit more content in your table, Excel allows you to modify the **table size** by including additional rows and columns. There are two simple ways to change the table size:

• Begin typing new content after the last row or column in the table. The row or column will be included in the table automatically.

	А	В	с	D	Е
1 2 3		ongibello ISAN PASTA INVOICE	Date: Invoice #: Customer:	11/13/10 145-10 Café Aurora	
4	Quantity 💌	Description	Unit Price 💌	Line Total 💌	
5	5	Fettuccini, Black Bean Flavor	\$12.00	\$60.00	
6	7	Fettuccini, Sundried Tomato Flavor	\$10.00	\$70.00	
7	9	Fettuccini, Thai Basil Flavor	\$10.00	\$90.00	
8	6	Penne, Roasted Red Pepper Flavor	\$14.00	\$84.00	
9	3	Penne, Massaman Curry Flavor	\$14.00	\$42.00	
10	4	Penne, Wild Mushroom Flavor	\$15.00	\$60.00	
11	8	Breadsticks, Garlic & Olive Oil 🛛 📋		\$0.00	
12					

• Click, hold, and drag the **bottom-right corner** of the table to create additional rows or columns.

10		4 Penne, W	ild Mushroom Flavor		\$15.00	\$6	0.00	
11		8 Breadstic	ks, Garlic & Olive Oil		\$4.00	\$3:	2.00	
12								
13								
14								
15								
16	_							_
17		А	В			С	D	E
	1		., ,,		Date	:	11/13/10	
	2		ongibello		Invoi	ice #:	145-10	
	3	ART	IISAN PASTA	INVOICE	Cust	omer:	Café Aurora	
	4	Quantity 💌	Description		💌 Unit	Price 💌	Line Total 💌	
	5	5	Fettuccini, Black Bean Flav	/or		\$12.00	\$60.00	
	6	7	Fettuccini, Sundried Toma	ato Flavor		\$10.00	\$70.00	
<u>۱</u>	7	9	Fettuccini, Thai Basil Flavo	or		\$10.00	\$90.00	
	8	6	Penne, Roasted Red Pepp	er Flavor		\$14.00	\$84.00	
· ·	9	3	Penne, Massaman Curry F	lavor		\$14.00	\$42.00	
	10	4	Penne, Wild Mushroom Fl	lavor		\$15.00	\$60.00	
	11	8	Breadsticks, Garlic & Olive	Oil		\$4.00	\$32.00	
	12							
	13							
	14							
	15							
	16							

 Locate the Table Styles group, then click the More drop-down arrow to see all available table styles.

 		 	*
 		 	* •
 Table Sty	es	 	2

3. Select the **desired style**.

Light				
			12	
			Table	Style Light 12
Medium				

To change the table style:

1. Select **any cell** in your table, then click the **Design** tab.

X		¢÷									TABLE	TOOLS	٦
F	ILE HOM	IE INS	ERT	PAGE LAYOUT	FORMUL	AS	DATA	RE	EVIEW	VIEW	DES	IGN	
	Copy	•	Calibri	- 11			= =			Wrap T		43	
Pas	ste , 🚿 Format	t Painter	BI	<u>U</u> - <u>U</u> -	<u>ð</u> - <u>A</u> -	=	==	€ 1		Merge	& Center	- \$ -	Ŧ
	Clipboard	G.		Font	5			AI	ignment			G.	
AS	5 🔻	: >	<	f _x 5									_
	Α			В			С		D		E		F
1			hella				Date:	1	11/13/1	.0			_
2		ongu			OLCE		Invoice #:		145-10				
3	Quantity 🔽	IJAN F	AJIA	1111	UILE	-	Customer Unit Price	_	Café Au	_			_
5				Bean Flavor				2.00		\$60.00			_
6				ried Tomato F	lavor			0.00		\$70.00			
7				Basil Flavor				0.00		\$90.00			
8				Red Pepper F	lavor			4.00		\$84.00			
9				an Curry Flavo			\$14	4.00		\$42.00			
10	4	Penne, V	Vild Mu	shroom Flavo	r		\$1	5.00		\$60.00			
11	8	Breadstic	cks, Garl	ic & Olive Oil			\$	4.00		\$32.00			
12													

4. The selected **table style** will appear.

	Α	В	С	D	Е
1		anailaelle	Date:	11/13/10	
2		ongibello	Invoice #:	145-10	
3	ART	ISAN PASTA INVOICE	Customer:	Café Aurora	
4	Quantity 💌	Description 🔽	Unit Price 💌	Line Total 💌	
5	5	Fettuccini, Black Bean Flavor	\$12.00	\$60.00	
6	7	Fettuccini, Sundried Tomato Flavor	\$10.00	\$70.00	
7	9	Fettuccini, Thai Basil Flavor	\$10.00	\$90.00	
8	6	Penne, Roasted Red Pepper Flavor	\$14.00	\$84.00	
9	3	Penne, Massaman Curry Flavor	\$14.00	\$42.00	
10	4	Penne, Wild Mushroom Flavor	\$15.00	\$60.00	
11	8	Breadsticks, Garlic & Olive Oil	\$4.00	\$32.00	
12					

To modify the table style options:

You can turn various options **on** or **off** to change the appearance of any table. There are six options: **Header Row, Total Row, Banded Rows, First**

Column, Last Column, and Banded Columns.

- 1. Select **any cell** in your table.
- From the Design tab, check or uncheck the desired options in the Table Style Options group. In our example, we'll check Total Row to automatically include a total for our table.

VIEW	DESIGN		
✓ He	ader Row	Eirst Column	✓ Filter Button
To	tal Row	Last Column	
Ba	nded Rows	Banded Columns	
		Table Style Options	

3. The table style will be modified. In our example, a **new row** has been added to the table with a **formula** that will automatically calculate the total value of the cells in column D.

	А	В	С	D	E
1 2 3		ongibello ISAN PASTA INVOICE	Date: Invoice #: Customer:	11/13/10 145-10 Café Aurora	
4	Quantity -	Description		Line Total	
5	5	Fettuccini, Black Bean Flavor	\$12.00	\$60.00	
6	7	Fettuccini, Sundried Tomato Flavor	\$10.00	\$70.00	
7	9	Fettuccini, Thai Basil Flavor	\$10.00	\$90.00	
8	6	Penne, Roasted Red Pepper Flavor	\$14.00	\$84.00	
9	3	Penne, Massaman Curry Flavor	\$14.00	\$42.00	
10	4	Penne, Wild Mushroom Flavor	\$15.00	\$60.00	
11	8	Breadsticks, Garlic & Olive Oil	\$4.00	\$32.00	
12	Total			\$438.00	
13					

These options can affect your table style in various ways, depending on the type of content in your table. You may need to experiment with a few different options to find the exact style you want.

To remove a table:

Sometimes you may not want to use the additional features included with tables, such as the Sort and Filter dropdown arrows. You can **remove** a table from the workbook while still preserving the table's formatting elements, like font and cell color.

- 1. Select **any cell** in your table. The **Design** tab will appear.
- Click the Convert to Range command in the Tools group.
- 3. A dialog box will appear. Click **Yes**.

FILE H	OME	INSERT	PAGE LAYOUT	F	ORMULAS	5 D/	ATA	REVIEW	VIEW	DESIGN	
Table Name:	1	Summarize w	ith PivotTable			P.		Properties	✓ He	eader Row	🗌 F
Table1	+	Remove Dupl			9	Refresh	L (G) \	Open in Browser	🗌 To	otal Row	🗌 L
🕀 Resize Tabl	e 🚰 (Convert to Ra	inge	Insert Slicer	export *	*		Unlink	✓ Ba	inded Rows	B
Properties			Tools			Extern	al Tab	ole Data			

	А	В		С	D	E	F
1		, unile lle		Date:	11/13/10		
2		ongibello		Invoice #:	145-10		
3	ART	<u>ISAN PASTA INVC</u>	ICE	Customer:	Café Aurora		
4	Quantity 🔽	Description	٧	Unit Price 💌	Line Total 💌		
5	5	Fettuccini, Black Bean Flavor		\$12.00 \$60.00			
6	7	Fettuccini, Sundried Tomato Fla	vor	\$10.00 \$70.0			
7	9	Fettuccini, Thai Basil Flavor		\$10.00 \$90.00			
8	6	Penne, Roasted Red Pepper Fla		Micros	soft Excel	>	ĸ
9	3	Penne, Massaman Curry Flavor		WINCO.			
10	4	Penne, Wild Mushroom Flavor	Δ				
11	8	Breadsticks, Garlic & Olive Oil		o you want to cor	wert the table to a	normal range?	2
12	Total			Yes	No		
13					NO		
14				N			

 The range will no longer be a table, but the cells will retain their data and formatting.

	А	В	С	D	Е
1 2 3		ongibello ISAN PASTA INVOICE	Date: Invoice #: Customer:	11/13/10 145-10 Café Aurora	
-	Quantity	Description	Unit Price	Line Total	
5	5	Fettuccini, Black Bean Flavor	\$12.00	\$60.00	
6	7	Fettuccini, Sundried Tomato Flavor	\$10.00	\$70.00	
7	9	Fettuccini, Thai Basil Flavor	\$10.00	\$90.00	
8	6	Penne, Roasted Red Pepper Flavor	\$14.00	\$84.00	
9	3	Penne, Massaman Curry Flavor	\$14.00	\$42.00	
10	4	Penne, Wild Mushroom Flavor	\$15.00	\$60.00	
11	8	Breadsticks, Garlic & Olive Oil	\$4.00	\$32.00	
12	Total			\$438.00	
13					

Chapter-19 Charts

Introduction

It can often be difficult to interpret Excel workbooks that contain a lot of data. **Charts** allow you to illustrate your workbook data **graphically**, which makes it easy to visualize **comparisons** and **trends**.

To insert a chart:

 Select the cells you want to chart, including the column titles and row labels. These cells will be the source data for the chart. In our example, we'll select cells A1:F6.

	Α	В	С	D	E	F	G
1	Genre 🔽	2008 💌	2009 💌	2010 🔽	2011 💌	2012 💌	
2	Classics	\$18,580	\$49,225	\$16,326	\$10,017	\$26,134	
3	Mystery	\$78,970	\$82,262	\$48,640	\$49,985	\$73,428	
4	Romance	\$24,236	\$131,390	\$79,022	\$71,009	\$81,474	
5	Sci-Fi & Fantasy	\$16,730	\$19,730	\$12,109	\$11,355	\$17,686	
6	Young Adult	\$35,358	\$42,685	\$20,893	\$16,065	\$21,388	
7							/三
8							

2. From the Insert tab, click the desired Chart command. In our example, we'll select Column.



4. The selected chart will be inserted in the worksheet.



3. Choose the desired **chart type** from the drop-down menu.



If you're not sure which type of chart to use, the **Recommended Charts** command will suggest several

different charts based on the source data.



Chart layout and style

After inserting a chart, there are several things you may want to change about the way your data is displayed. It's easy to edit a chart's **layout** and **style** from the **Design** tab.

 Excel allows you to add chart elements—such as chart titles, legends, and data labels—to make your chart easier to read. To add a chart element, click the Add Chart Element command on the Design tab, then choose the desired element from the drop-down menu.



To edit a chart element, like a chart title, simply double-click the placeholder and begin typing.



 Excel also includes several different chart styles, which allow you to quickly modify the look and feel of your chart. To change the chart style, select the desired style from the Chart styles group.

					CHAR	T TOOLS	L22 Screens - Excel
PAGE LAYOUT	FORMULAS	DATA	REVIEW VI	EW D	ESIGN	FORMAT	
<u>></u> /				A	Ź		
			Chart Styles				
f_{x}					Style	б	\ [
С	D	Е	F	G	н		· · · · ·
2009	2010 💌	2011 💌	2012 💌		_		elect a style or click the
\$49,22	5 \$16,326	\$10,017	\$26,134		\$140,0		rop-down arrow to see more styles
\$82,26	2 \$48,640	\$49,985	\$73,428				more styles
\$121.29	0 \$79.022	\$71.009	\$81.474		11		

Other chart options

workbook.

There are many other ways to customize and organize your charts. For example, Excel allows you to **rearrange** a chart's data, change the **chart type**, and even **move** the chart to a different location in the If you don't want to add chart elements individually, you can use one of Excel's predefined layouts. Simply click the Quick
 Layout command, then choose the desired layout from the drop-down menu.



You can also use the chart formatting shortcut buttons to quickly **add chart elements**, change the **chart style**, and **filter** the chart data.



To switch row and column data:

Sometimes you may want to change the way charts **group** your data. For example, in the chart below, the Book Sales data are grouped **by year**, with columns for **each genre**. However, we could switch the rows and columns so the chart will group the data **by genre**, with columns for **each year**. In both cases, the chart contains the same data—it's just organized differently.



- 1. Select the **chart** you want to modify.
- 2. From the **Design** tab, select the **Switch Row/Column** command.



To move a chart:

Whenever you insert a new chart, it will appear as an object on the same worksheet that contains its source data. Alternatively, you can **move** the chart to a **new worksheet** to help keep your data organized.

- 1. Select the **chart** you want to move.
- Click the **Design** tab, then select the **Move** Chart command.

CHART TOOLS				
DESIGN FORMAT				
	Switch Row/ Column	Select Data	Change Chart Type	
	Data		Type	l

Classics -

Yea

--- Mystery ---- Romance ----- Sci-Fi & Fantasy ----- Young Adult

- 3. The **Move Chart** dialog box will appear. Select the **desired location** for the chart. In our example, we'll choose to move it to a **New sheet**, which will create a new worksheet.
- 4. Click **OK**.

		Move Chart	? ×						
Choose where you want the chart to be placed:									
	• New <u>s</u> heet:	Book Sales Chart 2008-2012							
	O <u>O</u> bject in:	Sheet1	¥						
		ОК	Cancel						

5. The chart will appear in the selected location. In our example, the chart now appears on a new worksheet.



Keeping charts up to date

By default, when you add more data to your spreadsheet, the chart may not include the new data. To fix this, you can adjust the **data range**. Simply click the chart, and it will highlight the data range in your spreadsheet. You can then click and drag the **handle** in the lower-right corner to change the data range.

В	С	D	E	F
January	February	March	April	May
\$18,580	\$49,225	\$16,326	\$10,017	\$26,134
\$78,970	\$82,262	\$48,640	\$49,985	\$73,428
\$24,236	\$131,390	\$79,022	\$71,009	\$81,474
\$16,730	\$19,730	\$12,109	\$11,355	\$17,686
\$35,358	\$42,685	\$20,893	\$16,065	\$21,388

If you frequently add more data to your spreadsheet, it may become tedious to update the data range. Luckily, there is an easier way. Simply format your source data as a **table**, then create a **chart based on that table**. When you add more data below the table, it will automatically be included in both the table and the chart, keeping everything consistent and up to date.

Chapter-20 Sparklines

Introduction

Sometimes you may want to **analyze** and view **trends** in your data without creating an entire chart. **Sparklines** are miniature charts that fit into a **single cell**. Because they're so compact, it's easy to include several sparklines in a workbook.

Types of sparklines

There are three different types of sparklines: Line, Column, and Win/Loss. Line and Column work the same as line and column charts. Win/Loss is similar to Column, except it only shows whether each value is **positive** or **negative** instead of how **high** or **low** the values are. All three types can display **markers** at important points, such as

the **highest** and **lowest** points, to make them easier to read.



Why use sparklines?

Sparklines have certain advantages over charts. For example, let's say you have 1,000 rows of data. A traditional chart would have 1,000 data series to represent all of the rows, making relevant data difficult to find. But if you placed a sparkline on each row, it will be right next to its **source data**, making it easy to see **relationships** and **trends** for multiple data series at the same time.

In the image below, the chart is extremely cluttered and difficult to follow, but the sparklines allow you to clearly follow each salesperson's data.



Sparklines are ideal for situations when you need a clear overview of the data **at a glance** and when you don't need all of the features of a full chart. On the other hand, charts are ideal for situations when you want to represent the data in **greater detail**, and they are often better for **comparing** different data series.

To create sparklines:

Generally, you will have one sparkline for each row, but you can create as many as you want in any location. Just like **formulas**, it's usually easiest to create a **single sparkline** and then use the **fill handle** to create sparklines for the adjacent rows. In our example, we'll

create sparklines to help visualize **trends** in sales over time for each salesperson.

- Select the cells that will serve as the source data for the first sparkline. In our example, we'll select the cell range B2:G2.
- Select the Insert tab, then choose the desired Sparkline from the Sparklines group. In our example, we'll choose Line.

	A	В	С	C D		F	G	
1	Salesperson	May	June	July	Aug.	Sept.	Oct.	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00	
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	\$10,185.00	\$18,749.00	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00	



- The Create Sparklines dialog box will appear. Use the mouse to select the cell where the sparkline will appear, then click OK. In our example, we'll select cell H2, and the cell reference will appear in the Location Range: field.
- 4. The sparkline will appear in the specified cell.

	А	В	С	D	Е	F	G	Н
1	Salesperson	May	June	July	Aug.	Sept.	Oct.	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00	\sim
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	\$10,185.00	\$18,749.00	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00	

							- 88 -	
	D	E	F	G	н	1	J	К
e	July	Aug.	Sept.	Oct.				
0	\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00				
D	\$9,355.00	\$1,100.00	\$10,185.00		Crea	te Sparklines	?	×
כ	\$6,702.00	\$2 116 00	\$13 452 00	Choose the o				
D	\$4,415.0	Use the m	ouse to	Data Range				1
כ	\$11,601. <mark>(</mark>	select the		Choose whe	re vou want	the sparklines t	o be placed	
)	\$3,726.0	cell, then o		Location Ri			o be place	
)	\$9,007.00	\$2,113.00	\$13,090.00					
)	\$4,505.00	\$1,024.00	\$3,528.00			ОК	Car	ncel
)	\$3,973.00	\$1,716.00	\$4,839.00	\$13,085.00				
)	\$2,945.00	\$1,176.00	\$9,642.00	\$13,714.00				
)	\$7,549.00	\$1,101.00	\$5,850.00	\$15,065.00				

5. Click, hold, and drag the **fill handle** to create sparklines in adjacent cells.

	6	 Sparklines will be created for the selected cells. In our example, the sparklines show 							4	A	В	С	D	E	F	G	H
	÷ ·								1	Salesperson	May	June	July	Aug.	Sept.	Oct.	
	clear trends in sales over time for each salesperson in our worksheet.						2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00	\sim		
2	A	В	С	D	E	F	G	Н	3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	\$10,185.00	\$18,749.00	
1	Salesperson	May	June	July	Aug.	Sept.	Oct.		4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00	\sim	5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00	
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	\$10,185.00	\$18,749.00	\sim								4	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00	\sim	6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00	\$3,170.00	\$10,733.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00		7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00	\$8,817.00	\$18,524.00	
6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00	\$3,170.00	\$10,733.00	\mathcal{N}	8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00	\$13,090.00	\$13,953.00	
7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00	\$8,817.00	\$18,524.00	~/		Counts Elizaboth	\$4.670.00	d501.00	\$4 E0E 00	ć1 024 00	¢2 528 00	¢15 375 00	
8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00	\$13,090.00	\$13,953.00	\sim	9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00	Ş3,328.00	\$15,275.00	
9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00	\$3,528.00	\$15,275.00	\checkmark	10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.00	\$4,839.00	\$13,085.00	
10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.00	\$4,839.00	\$13,085.00		11	Davis, William	\$5,363.00	\$1,562.00	\$2,945.00	\$1,176.00	\$9,642.00	\$13,714.00	
11	Davis, William	\$5,363.00	\$1,562.00	\$2,945.00	\$1,176.00	\$9,642.00	\$13,714.00	\checkmark	12	Dumlao, Richard	\$3,275.00	\$2,779.00	\$7,549.00	\$1,101.00	\$5,850.00	\$15,065.00	- H
12	Dumlao, Richard	\$3,275.00	\$2,779.00	\$7,549.00	\$1,101.00	\$5,850.00	\$15,065.00	\sim		,	. ,				,,		

Modifying sparklines

It's easy to change the way sparklines appear in your worksheet. Excel allows you to customize a sparkline's **markers**, **style**, **type**, and more.

To display markers:

Certain points on a sparkline can be emphasized with **markers**, or dots, making the sparkline more readable. For example, in a line with a lot of **ups and downs**, it might be difficult to tell which values are the highest and lowest points. Showing the **high point** and **low point** will make them easier to identify.

- 1. Select the **sparkline(s)** you want to change. If they are **grouped** in adjacent cells, you'll only need to click on one sparkline to select them all.
- 2. From the **Design** tab, select the desired option(s) from the **Show** group. In our example, we'll select **Highpoint** and **Low Point**.

FILE	HOME IN	ISERT	PAGE LAYOUT	FORMULAS	DATA	REVIEW	VIEW	DESIGN
Edit Data •	Line Column	Win/ Loss	 ✓ High Point ✓ Low Point ✓ Wegative Points 	 First Point Last Point Markers 	\sim	$^{\wedge}$	$\wedge \wedge$	\checkmark \checkmark
Sparkline	Туре		Shov	v				

G	Н	1
Oct.		
\$8,690.00	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
\$18,749.00	\sim	
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\$10,733.00	\mathcal{N}	
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\$13,953.00	\sim	
\$15,275.00	\sim	
\$13,085.00		
\$13,714.00	\checkmark	
\$15,065.00	\sim	





To change the sparkline style:

- 1. Select the **sparkline(s)** you want to change.
- 2. From the **Design** tab, click the **More** drop-down arrow.



 Choose the desired style from the drop-down menu.



4. The sparkline(s) will update to show the selected style.

G	Н	I.
Oct.		
\$8,690.00	\checkmark	
\$18,749.00	\sim	
\$8,046.00	\sim	
\$20,114.00		
\$10,733.00	\sim	
\$18,524.00		
\$13,953.00	~~~	
\$15,275.00	\checkmark	
\$13,085.00		
\$13,714.00	\sim	
\$15,065.00	<u> </u>	

To change the sparkline type:

- Select the sparkline(s) you want to change.
- From the Design tab, select the desired Sparkline type. In our example, we'll select Column.

INSERT HOME PAGE LAYOUT FORMULAS DATA REVIEW VIEW DESIGN 🗹 High Point First Point 1 \sim the \∕¢ ✓ Low Point Last Point Edit Line Column Win/ Negative Points Markers Data 🔻 Loss 2 Sparkline Туре Shov Styl

3. The sparkline(s) will update to reflect the new type.

G	Н	I.
Oct.		
\$8,690.00		
\$18,749.00		
\$8,046.00		
\$20,114.00		
\$10,733.00		
\$18,524.00		
\$13,953.00		
\$15,275.00		
\$13,085.00		
\$13,714.00	•_ ∎	
\$15,065.00		

Some sparkline types will be better suited for certain types of data. For example, **Win/Loss** is best suited for data where there could be **positive** and **negative** values (such as **net earnings**).

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Changing the display range

By default, each sparkline is scaled to fit the maximum and minimum values of its **own data source**: The maximum value will go to the top of the cell, while the minimum will go to the bottom. However, this doesn't show how high or low the values are when compared to the other sparklines. Excel allows you to modify the sparkline **display range**, which makes it easier to **compare** sparklines.

To change the display range:

- 1. Select the **sparklines** you want to change.
- 2. From the **Design** tab, click the **Axis** command. A drop-down menu will appear.

G	Н	I.
Oct.		
\$8,690.00		
\$18,749.00		
\$8,046.00		
\$20,114.00		
\$10,733.00		
\$18,524.00		
\$13,953.00		
\$15,275.00		
\$13,085.00		
\$13,714.00	•_ 	
\$15,065.00		

3. Below Vertical Axis Minimum Value Options and Vertical Axis Maximum Value Options, select Same for All Sparklines.

☑ Sparkline Color ▼ ■ Marker Color ▼	Axis Clear
	Horizontal Axis Options
	✓ <u>G</u> eneral Axis Type
	Date Axis Type
K L	Show Axis
	Plot Data Right-to-Left
	Vertical Axis Minimum Value Options
	Automatic for Each Sparkline
	✓ Same for All Sparklines
	<u>C</u> ustom Value
	Vertical Axis Maximum Value Options
	Automatic for <u>E</u> ach Sparkline
	✓ Same for All Sparklines
	Custom <u>V</u> alue

4. The sparklines will update to reflect the new display range. In our example, we can now use the sparklines to compare trends for each salesperson.



Chapter-21 Track Changes and Comments

Introduction

Let's say someone asked you to proofread or collaborate on a workbook. If you had a printed copy, you might use a red pen to edit cell data, mark spelling errors, or add comments in the margins. Excel allows you to do all of these things electronically using the **Track Changes** and **Comments** features.

Understanding Track Changes

When you turn on the **Track Changes** feature, every cell you edit will be **highlighted** with a unique border and indicator. Selecting a marked cell will show the details of the change. This allows you and other reviewers to see what's been changed before accepting the revisions permanently.

There are some changes Excel **cannot** track. Before using this feature, you may want to review Microsoft's list of **changes that Excel does not track or highlight**.

You cannot use Track Changes if your workbook includes **tables**. To remove a

C		D			E			G	Н	1
Time	ltem			Facilitato						
		elcome		ı						
Tracke	d change		Garth							
		nships exercise		Garth, De	an, Liz					
0:1	5 Break									
2:0	2:00 Cady Falls hike (strategy game?)				Tyler					
1:0	1:00 Lunch (with strategy game team)							lores 4/15	5/2013 11	13 AM·
0:1	5, strategy de	brief		Julia Julia					lulia'.	
1:0	0 Getting to k	now your team		See Liz fo	info					
1:0	0 Strengths e	xercise				L				
0:1	5 Break/Snac	k						1		
0:4	5 Redwoods l	hike								
1:0	0 Team buildi	ing exercise		Select a cell to see Immary of the char						
2:0	0 Dinner		SU				es			
12:0	0									

table, select it, click the Design tab, then click Convert to Range.

To turn on Track Changes:

 From the **Review** tab, click the **Track Changes** command, then select **Highlight Changes...** from the drop-down menu.

FORMULAS	DATA	REVIEW	VIEW						
		Show/Hide C						Protect and Share	
Delete Previous	Next	Show All Cor Show Ink	nments	Protect	Protect Workbook	Share		Allow Users to Ed Frack Changes •	-
Ca	mments						₽	<u>H</u> ighlight Chan	
							初	Accept/Reject (Changes

2. The **Highlight Changes** dialog box will appear. Check the box next to **Track changes while editing**. Verify the box is checked for **Highlight changes on screen**, then click **OK**.

	Highlight Changes	?	x
✓ Track changes	while editing. This also shares your wor	kbook.]
Highlight whi	ch changes		-
✔ Whe <u>n</u> :	All		¥
🗌 Wh <u>o</u> :	Everyone		¥
Whe <u>r</u> e:			1
	: changes on <u>s</u>creen ges on a new sheet		
	ОК	Can	cel

3. If prompted, click **OK** to allow Excel to save your workbook.

 Microsoft Excel
This action will now save the workbook. Do you want to continue?
OK

Track Changes will be turned on.
 A triangle and border color will appear in any cell you edit. If there are multiple reviewers, each person will be assigned a different color.

5. Select the edited cell to see a summary of the tracked changes. In our example below, we've changed the content of cell E11 from ? to Tyler.

When you turn on Track Changes, your workbook will be **shared** automatically. Shared workbooks are designed to be stored where other users can access and edit the workbook at the same time, such as a network. However, you can also track changes in a local or personal copy, as seen throughout this lesson.

Time Item			Facilita	ator						
1:00 Breakfast, w	elcome		Exec te	am						
0:30 Introduction			Garth							
1:00 Work relatio	nships e	xercise	Garth, I	Dea	ın, Liz					
0:15 Break				_						
2:00 Cady Falls hi	ke (strat	egy same?)	?	v						
1:00 Lunch (with	strategy	game team)								
0:15 Strategy deb	rief		TBD							
Item		Facilitator		Γ						
Breakfast, welcome		Exec team								
Introduction		Garth								
Work relationships exercise		Garth, Dean, Li	iz							
Break					lavior E	loroc	4/1	/2012 1	0:23 AM:	
Cady Falls hike (strategy ga	me?)	Tyler 🖧						om '?' to '		
Lunch (with strategy game t	team)	_								
Strategy debrief		TBD								
?		See Liz for info)							
Strengths exercise										

To list changes on a separate worksheet:

You can also view changes on a new worksheet, sometimes called the **Tracked Changes history**. The history lists everything in your worksheet that has been changed, including the **old value** (previous cell content) and the **new value** (current cell content).

- 1. Save your workbook.
- 2. From the **Review** tab, click the **Track** Changes command, then select Highlight Changes... from the drop-down menu.

FORMULAS	DATA	REVIEW	VIEW	_				
Delete Previous	Next	Show/Hide C Show All Con Show Ink		Protect Sheet	Share Workbook	5	Protect Shared Workbook Allow Users to Edit Ranges Track Changes 🗸	
Ca	omments				Cha	₿ * 2	Highlight Changes	

3. The Highlight Changes dialog box will appear. Check the box next to List changes on a new sheet, then click **OK**.

	Highlight Changes	?	x										
✓ <u>T</u> rack changes	while editing. This also shares your workl	book.			4. w			ed chan called F	2	be listed	on tł	neir own	
Highlight which	h changes		_		Α	В	с	D	E	F	G	н	L
✓ Whe <u>n</u> :	All		\checkmark		Action							New	Old
Who:	Everyone		\checkmark	1	Number 🔻		Time		Change 💌	1 million 1	Range	Value 🔻	Value 🔻
				2	1	4/15/201	3 11:21 A	M Javier Flore	Cell Change	Agenda Planner	E6	Tyler	?
Whe <u>r</u> e:			•	3	2	4/15/201	3 11:21 A	V Javier Flores	Cell Change	Agenda Planner	E8	Julia	TBD
			_	4	3	4/15/201	3 11:21 AI	V Javier Flore	Cell Change	Agenda Planner	D9	Getting to know your team	??
✓ Highlight	changes on screen			5	4	4/15/201	3 11:21 A	VI Javier Flore	Cell Change	Agenda Planner	D11	Break/snack	Break
✓ List change	ges on a new sheet			6									
				7	The history	ends with	the chan	ges saved on 4	/15/2013 at 11	L:21 AM.			
	OK	Cancel		8									
		curreer			\leftarrow \rightarrow	Agenda	Planner	History	+				:

To remove the History worksheet from your workbook, you can either save your workbook again or uncheck the box next to List changes on a new sheet in the Highlight Changes dialog box.

Reviewing changes

Tracked changes are really just **suggested** changes. To become permanent, the changes must be **accepted**. On the other hand, the original author may disagree with some of the tracked changes and choose to reject them.

To review tracked changes:	FORMULAS DATA	REVIEW VIEW		
Changes, then	Delete Previous Next	Show/Hide Comment Show All Comments Show Ink	Protect Protect Share	Image: Protect Shared Workbook Image: Protec
select Accept/Reject Changes from the drop-down menu.	Comments		Cha	Highlight Changes
				Accept/Reject Changes

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Cancel

- 2. If prompted, click **OK** to save your workbook.
- A dialog box will appear. Make sure the box next to the When: field is checked and set to Not yet reviewed, then click OK.
- 4. A dialog box will appear.

Click **Accept** or **Reject** for each change in the workbook. Excel will move through each change automatically until you have reviewed them all.

Which changes

When:

Who:

Where:

В	С	D	E	F	
10:30 AM	1:00	Work relationships exercise	Garth, Dean, Liz		
10:45 AM	0:15	Break			
12:45 PM	2:00	Cady Falls hike (strategy game?)	Tyler		
1:45 PM	1:00	Lunch (with strategy game team)			
2:00 PM	0:15	Strategy debrief	TBD		
3:00 PM	1:00	Getting to know your team	See Liz for info		
4:00 PM	1:00	Strengths exercise			
4:15 PM	0:1	Accept or Reje	oct Changes	? ×	
5:00 PM	0:4	Accept of Reje	let enanges		
6:00 PM	1:0	Change 1 of 2 made to this document:			
8:00 PM	2:0	Javier Flores, 4/15/2013 10:38 AM:		^	
	12:0	Changed cell E6 from '?' to 'Tyler'.			
				~	
		Accept Reject Accept	All Reject All	Close	

- 6. A dialog box will appear. Uncheck the box next to **Track changes while editing**, then click **OK**.
- Even after accepting or rejecting changes, the tracked changes will still appear in your workbook. To remove them completely, you'll need to turn off Track Changes. From the Review tab, click Track Changes, then select Highlight Changes from the dropdown menu.

OK

Select Changes to Accept or Reject

Not yet reviewed

Everyone

Delete Previous	Next	Show/Hide Comment Show All Comments Show Ink	Protect Sheet	Protect Workbook	Share	5	Protect Shared Workbool Allow Users to Edit Range Track Changes •
<i>C</i> (omments				Cha	Ð	Highlight Changes

Highlight Changes * Track changes while editing. This also shares your workbook. •	 Click Yes to confirm that you want to turn off Track Changes and stop sharing your workbook.
Highlight which changes Image: When: All Image: Whene: Image: Whene:	Microsoft Excel
Who: Everyone V Where: F	This action will remove the workbook from shared use. The change history will be erased, and other users who are editing this workbook will not be able to save their changes, even if you share this workbook gapin.
✓ Highlight changes on screen List changes on a new sheet QK Cancel	To make the workbook exclusive, click l'res. To cancel and return to shared mode, click No. Yes No

To accept or reject all the changes at once, click **Accept All** or **Reject All** in the Accept or Reject Changes dialog box.

Turning off Track Changes will remove any tracked changes in your workbook. You will not be able to view, accept, or reject changes; instead, all changes will all be accepted **automatically**. Always review the changes in your worksheet before turning off Track Changes.

Comments

Sometimes you may want to add a **comment** to provide feedback instead of editing the contents of a cell. While often used in combination with Track Changes, you don't necessarily need to have Track Changes turned on to use comments.

To add a comment:

 Select the cell where you want the comment to appear. In our example, we'll select cell E8.

	A	В	С	D	E	F
1		End		ltem	Facilitator	
2	8:00 AM	9:00 AM	1:00	Breakfast, welcome	Execteam	
3	9:00 AM	9:30 AM	0:30	Introduction	Garth	
4	9:30 AM	10:30 AM	1:00	Work relationships exercise	Garth, Dean, Liz	
5	10:30 AM	10:45 AM	0:15	Break		
6	10:45 AM	12:45 PM	2:00	Cady Falls hike (strategy game?)	Tyler	
7	12:45 PM	1:45 PM	1:00	Lunch (with strategy game team)		
8	1:45 PM	2:00 PM	0:15	Strategy debrief	TBD 🗘	1
9	2:00 PM	3:00 PM	1:00	Getting to know your team	See Liz for info	
10	3:00 PM	4:00 PM	1:00	Strengths exercise		
11	4:00 PM	4:15 PM	0:15	Break		
12	4:15 PM	5:00 PM	0:45	Redwoods hike	Dean	
13	5:00 PM	6:00 PM	1:00	Team building exercise	Garth, exec team	
14	6:00 PM	8:00 PM	2:00	Dinner		
15	Total		12:00			

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2. From the **Review** tab, click the **New Comment** command.



3. A **comment box** will appear. Type your comment, **L** then click anywhere outside the box to close the comment.

С	D	E		F	G	н
ime	ltem	Facilitator				
1:00	Breakfast, welcome	Exec team				
0:30	Introduction	Garth				
1:00	Work relationships exercise	Garth, Dean, Liz				
0:15	Break					
2:00	Cady Falls hike (strategy game?)	Tyler				
1:00	Lunch (with strategy game team)		10	vier Flo	TOC'	-
0:15	Strategy debrief	TBD			t be willing t	0
1:00	Getting to know your team	See Liz for info	🗆 lea	II		
1:00	Strengths exercise					
0:15	Break				-	
0:45	Redwoods hike	Dean				
1:00	Team building exercise	Garth, exec team				
2:00	Dinner					
12:00						

 The comment will be added to the cell, represented by the red triangle in the topright corner.

5.	Select	the	cell	again	to	view	the	comment.

с	D	E	F	G	н	
Time	ltem	Facilitator				
1:00	Breakfast, welcome	Exec team				
0:30	Introduction	Garth				
1:00	Work relationships exercise	Garth, Dean, Liz				
0:15	Break					
2:00	Cady Falls hike (strategy game?)	Tyler				
1:00	Lunch (with strategy game team)		Javier F	lores.		
0:15	Strategy debrief	TBD 🗘		pht be willin	g to	
1:00	Getting to know your team	See Liz for info	lead this activity			
1:00	Strengths exercise					
0:15	Break					
0:45	Redwoods hike	Dean				
1:00	Team building exercise	Garth, exec team				
2:00	Dinner					
12:00						

	А	В	С		D	E	
1	Start	End	Time	ltem		Facilitator	
2	8:00 AM	9:00 AM	1:00	Breakfast, we	lcome	Exec team	
3	9:00 AM	9:30 AM	0:30	Introduction		Garth	
4	9:30 AM	10:30 AM	1:00	Work relation	ships exercise	Garth, Dean, Liz	
5	10:30 AM	10:45 AM	0:15	Break			
6	10:45 AM	12:45 PM	2:00	Cady Falls hi		Tyler	
7	12:45 PM	1:45 PM	1:00	Lunch (with	Comment		
8	1:45 PM	2:00 PM	0:15	Strategy deb	indicator	TBD	
9	2:00 PM	3:00 PM	1:00	Getting to kr		Facilitator Exec team Garth Garth, Dean, Liz Tyler	
10	3:00 PM	4:00 PM	1:00	Strengths exe	ercise	- -	<u> </u>
11	4:00 PM	4:15 PM	0:15	Break			L
12	4:15 PM	5:00 PM	0:45	Redwoods hil	ke	Dean	
13	5:00 PM	6:00 PM	1:00	Team building	g exercise	Garth, exec team	
14	6:00 PM	8:00 PM	2:00	Dinner			
15	Total		12:00				1

To edit a comment:

- 1. Select the **cell** containing the comment you want to edit.
- 2. From the **Review** tab, click the **Edit Comment** command.
- The comment box will appear. Edit the comment as desired, then click anywhere outside the box to close the comment.



С	D	E	F	G	н	
Time	ltem	Facilitator				
	1:00 Breakfast, welcome	Exec team				
	0:30 Introduction	Garth				
	1:00 Work relationships exercise	Garth, Dean, Liz				
	0:15 Break					
	2:00 Cady Falls hike (strategy game?)	Tyler				
	1:00 Lunch (with strategy game team)		Javier I	lores:		
	0:15 Strategy debrief	TBD		ght be willing to		
	1:00 Getting to know your team	See Liz for info		lead this activity		
	1:00 Strengths exercise		glad to!	lory: Sure, 1	d be	
	0:15 Break					
	0:45 Redwoods hike	Dean				
	1:00 Team building exercise	Garth, exec team				
	2:00 Dinner					
1	2:00					

To show or hide comments:

1. From the **Review** tab, click the **Show All Comments** command to view every comment in your worksheet at the same time.



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 All comments in the worksheet will appear. Click the Show All Comments command again to hide them.

D	E F G	н
ltem	Facilitator	
Breakfast, welcome	Execteam	
Introduction	Garth	
Work relationships exercise	Garth, Dean, Liz	
Break		
Cady Falls hike (strategy game?)	Javier Flores:	
Lunch (with strategy game team)	I think the game during	
Strategy debrief	the hike will be enough night be willing to	
Getting to know your team	Se to-back ulia Fillory: Sure.	Taba
Strengths exercise	Ulia Fillory: Sure,	Idbe
Break/snack	Javier Flores:	
Redwoods hike	DeHow many miles is this	
Team building exercise	Gahike? We'll need to make	
Dinner	sure to allot enough time!	

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You can also choose to show and hide individual comments by selecting the desired cell and then clicking the **Show/Hide Comment** command.



To delete a comment:

 Select the cell containing the comment you want to delete. In our example, we'll select cell E8.

С	D	E	F	G	H	
Fime	Item	Facilitator				
1:0	00 Breakfast, welcome	Exec team				
0:3	30 Introduction	Garth				
1:0	00 Work relationships exercise	Garth, Dean, Liz				
0::	L5 Break					
2:0	0 Cady Falls hike (strategy game?)	Tyler				
1:0	00 Lunch (with strategy game team)		Javier F	lores.		
0::	L5 Strategy debrief	Julia 🗘	Julia might be willing to			
1:0	0 Getting to know your team	See Liz for info		activity		
1:0	00 Strengths exercise		glad to!	lory: Sure, I	a be	
0::	L5 Break		gidd to:			
0:4	15 Redwoods hike	Dean				
1:0	00 Team building exercise	Garth, exec team				
2:0	00 Dinner					
12:0	00					

 From the **Review** tab, click the **Delete** command in the **Comments** group.



3. The comment will be deleted.

С	D	E	F
Time	ltem	Facilitator	
1:00	Breakfast, welcome	Exec team	
0:30	Introduction	Garth	
1:00	Work relationships exercise	Garth, Dean, Liz	
0:15	Break		
2:00	Cady Falls hike (strategy game?)	Tyler	
1:00	Lunch (with strategy game team)		
0:15	Strategy debrief	Julia	
1:00	Getting to know your team	See Liz for info	[
1:00	Strengths exercise		
0:15	Break		
0:45	Redwoods hike	Dean	
1:00	Team building exercise	Garth, exec team	
2:00	Dinner		
12:00			

Chapter-22 Finalizing and Protecting Workbooks

Introduction

Before sharing a workbook, you'll want to make sure it doesn't include any spelling errors or information you want to keep private. Fortunately, Excel includes several tools to help **finalize** and **protect** your workbook, including **Spell Check** and the **Document Inspector**.

To use Spell Check:

1. From the **Review** tab, click the **Spelling** command.



2. The **Spelling** dialog box will appear. For each spelling error in your worksheet, Spell Check will try to offer **suggestions** for the correct spelling. Choose a suggestion, then click **Change** to correct the error.



Ignoring spelling "errors"

Spell Check **isn't always correct**. It will sometimes mark certain words as incorrect, even if they're spelled correctly. This often happens with names, which may not be in the dictionary. You can choose **not** to change a spelling "error" using one of three options:

- 1. Ignore Once: This will skip the word without changing it.
- 2. Ignore All: This will skip the word without changing it and also skip all other instances of the word in your worksheet.
- **3.** Add: This adds the word to the dictionary so it will never appear as an error again. Make sure the word is spelled correctly before choosing this option.

Document Inspector

Whenever you create or edit a workbook, certain **personal information** may be added to the file automatically. You can use the Document Inspector to remove this kind of information before sharing a workbook with others.

Because some changes may be permanent, it's a good idea to save an additional copy of your workbook before using the Document Inspector to remove information.

To use the Document Inspector:

- 1. Click the **File** tab to access **Backstage view**.
- 2. From the **Info** pane, click **Check for Issues**, then select **Inspect Document** from the drop-down menu.
- 3. The **Document Inspector** will appear. Check or uncheck boxes, depending on the content you want to review, then click **Inspect**. In our example, we'll leave everything selected.

Document Inspector	?	×
Fo check the document for the selected content, click Inspect.		
Comments and Annotations Inspects the document for comments and ink annotations.		^
Document Properties and Personal Information Inspects for hidden metadata or personal information saved with the document.		
 Data Model Inspects Data Model for embedded data that may not be visible on the sheets. 		
✓ Content Apps Inspects for Content apps saved in the document body.		
✓ Task Pane Apps Inspects for Task Pane apps saved in the document.		
Custom XML Data Inspects for custom XML data stored with this document.		
Headers and Footers Inspects the workbook for information in headers and footers.		
J Hidden Dowe and Columne	Clo	↓ ose

5. When you're done, click **Close**.





4. The **inspection results** will appear. In our example, we can see that our workbook contains some personal information, so we'll click **Remove All** to remove that information from the workbook.

	Document Inspector	^
Revie	w the inspection results.	
0	Comments and Annotations No items were found.	^
1	Document Properties and Personal Information The following document information was found: * Document properties * Author * Absolute path to the workbook	
0	Data Model No embedded data found in the Data Model.	
0	Content Apps We did not find any Content apps for Office.	
0	Task Pane Apps We did not find any Task Pane apps for Office.	
0	Custom XML Data No custom XML data was found.	
0	Headers and Footers No beaders or footers were found	v
<u>A</u>	Note: Some changes cannot be undone. <u>R</u> einspect <u>C</u> lose	

Protecting your workbook

By default, anyone with access to your workbook will be able to open, copy, and edit its content unless you **protect** it. There are many different ways to protect a workbook, depending on your needs.

To protect your workbook:

- 1. Click the **File** tab to access **Backstage view**.
- 2. From the **Info** pane, click the **Protect Workbook** command.

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3. In the drop-down menu, choose the option that best suits your needs. In our example, we'll select **Mark as Final**. Marking your workbook as final is a good way to discourage others from editing the workbook, while the other options give you even more control if needed.

	(c)	Team Building Retreat - Excel
	Info	Info
	New Open	Team Building Retreat
	Save Save As	Protect Workbook Control what types of changes people can make to this workbook.
	Print Share	Workbook Mark as <u>Final</u> Let readers know the workbook is final and make it read-only.
	Export	Encrypt with Password Require a password to open this workbook. that it contains: ilities are unable to read noves properties and personal information
	Close Account	Protect Current Sheet Control what types of changes people can make to the current sheet. Protect Workhoals devices
	Options	Protect Workbook Structure Prevent unwanted changes to the structure of the workbook, such as adding sheets. Restrict Access
		Grant people access while removing their ability to edit, copy, or print. Add a Digital Signature Ensure the integrity of the workbook by adding an invisible digital signature. Browser View Options
4.	A dialog box w	ill appear, prompting you to save. Click OK .
	A This w	Microsoft Excel × orkbook will be marked as final and then saved. OK Cancel
5.	Another dialog	box will appear. Click OK .
		Microsoft Excel
0	When a document You can recognize	been marked as final to indicate that editing is complete and that this is the final version of the document. is marked as final, the status property is set to "Final" and typing, editing commands, and proofing marks are turned off. that a document is marked as final when the Mark As Final icon displays in the status bar.
	Don't show this	s message again
6.	The workbook	will be marked as final. Team Building Retreat [Read-Only] - INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW
		Al An author has reached this workhood, as final to discovere addition. Edit Assessed

0	MARKED AS F	FINAL An author	r has marked this	workbook as final to discourage editing.	Edit Anyway	
C2	5 *	: × 🗸	f_{x}			
	А	В	С	D	E	F
1	6					
2		7eD	Event:	Team Building Retreat		
3		BIOFUELS	Location:	Waverly Point Nature Preserve		
4	\leq		Date:	Saturday, August 10, 2013		
5					AGENDA PLANNER	

Marking a workbook as final will not prevent someone from editing it. If you want to prevent people from editing it, you can use the **Restrict Access** option instead.

Capter-23 Conditional Formatting

Introduction

Let's say you have a worksheet with thousands of rows of data. It would be extremely difficult to see patterns and trends just from examining the raw information. Similar to charts and sparklines, **conditional formatting** provides another way to visualize data and make worksheets easier to understand.

Understanding conditional formatting

Conditional formatting allows you to automatically apply formatting—such as **colors**, **icons**, and **data bars**—to one or more cells based on the **cell value**. To do this, you'll need to create a **conditional formatting rule**. For example, a conditional formatting rule might be: **If the value is less than \$2000, color the cell red.** By applying this rule, you'd be able to quickly see which cells contain values less than \$2000.

	A	В	С	D	E	
1	Salesperson	May	June	July	Aug.	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	
6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00	
7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00	
8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00	
9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00	
10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.00	

To create a conditional formatting rule:

In our example, we have a worksheet containing sales data, and we'd like to see which salespeople are meeting their monthly sales goals. The sales goal is \$4000 per month, so we'll create a conditional formatting rule for any cells containing a value higher than 4000.

- 1. Select the **desired cells** for the conditional formatting rule.
- From the Home tab, click the Conditional Formatting command. A drop-down menu will appear.
- Hover the mouse over the desired conditional formatting type, then select the desired rule from the menu that appears. In our example, we want to highlight cells that are greater than \$4000.

	А	В	С	D	E
1	Salesperson	May	June	July	Aug.
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00
6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00
7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00
8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00
9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00
10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.09

- A dialog box will appear. Enter the **desired** value(s) into the blank field. In our example, we'll enter 4000 as our value.
- 5. Select a **formatting style** from the dropdown menu. In our example, we'll choose **Green Fill with Dark Green Text**, then click **OK**.

Greater Than					×
Format cells that are GREATER TH	IAN:				
4000	💽 wi	th Green F	ill with Dark G	reen Text	~
			ок 🖓	Cano	el



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6. The conditional formatting will be applied to the selected cells. In our example, it's easy to see which salespeople reached the \$4000 sales goal for each month.

	А	В	С	D	E	
1	Salesperson	May	June	July	Aug.	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	
6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00	
7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00	
8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00	
9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00	
10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.00	

You can apply multiple conditional formatting rules to a cell range or worksheet, allowing you to visualize different trends and patterns in your data.

	A	В	С	D	E	
1	Salesperson	May	June	July	Aug.	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	
6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00	
7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00	
8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00	
9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00	
10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.00	

To remove conditional formatting:

- 1. Click the **Conditional Formatting** command. A drop-down menu will appear.
- 2. Hover the mouse over **Clear Rules**, and choose which rules you want to clear. In our example, we'll select **Clear Rules from Entire Sheet** to remove all conditional formatting from the worksheet.

3.

Norr	mal	Bad	Good	I	*
Conditional Format as Neu Formatting - Table -	tral	Calculation	Chec	k Cell) =
Highlight Cells Rules	▶ Sty	es			
Top/Bottom Rules	≻ L	M	N	0	
Data Bars	•				
Color <u>S</u> cales	•				
Icon Sets	•				
🔛 New Rule					
😳 <u>C</u> lear Rules	Clear	r Rules from <u>S</u> e	elected Cells		
Manage <u>R</u> ules	Clea	r Rules from <u>E</u> r	ntire Sheet		
	Clea	r Rules from <u>T</u> l	his Table	-s	
		r Rules from Tl	his <u>P</u> ivotTabl	e	

	А	В	С	D	E	
1	Salesperson	May	June	July	Aug.	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	
6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00	
7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00	
8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00	
9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00	
10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.00	

The conditional formatting will be removed.

Click Manage Rules to edit or						
delete individual rules. This is especially						
useful if you have applied multiple						
rules to a worksheet.						

	Conditional Forma	tting Rules Manager		? ×
Show formatting rules for: This	Table 🗸			
🔝 <u>N</u> ew Rule 🔛 <u>E</u> dit Ru	ule X Delete Rule			
Rule (applied in order shown)	Format	Applies to		Stop If True
Cell Value < 2000	AaBbCcYyZz	=\$B\$2:\$E\$10	1	
Cell Value > 4000	AaBbCcYyZz	=\$B\$2:\$E\$10	1	
L		ОК	Close	Apply
		OK	close	Арріу

Conditional formatting presets

Excel has several predefined styles—or **presets**—you can use to quickly apply conditional formatting to your data. They are grouped into three categories:

• **Data Bars** are horizontal bars added to each cell, much like a **bar graph**.

\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00
\$9,355.00	\$1,100.00	\$10 ,185.00	\$18,749.00
\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00
\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00

• Color Scales change the color of each cell based on its value. Each color scale uses a **two- or three**color gradient. For example, in the Green - Yellow - Red color scale, the highest values are green, the average values are yellow, and the lowest values are red.

\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00
\$9,355.00	\$1,100.00	\$10,185.00	\$18,749.00
\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00
\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00

• **Icon Sets** add a specific icon to each cell based on its value.

₽	\$3,863.00	\$1,117.00	\$8,237.00	
2	\$9,355.00	\$1,100.00	∕≥\$10,185.00	1 \$18,749.00
2	\$6,702.00	\$2,116.00	≽\$13,452.00	\$8,046.00
₽	\$4,415.00	4\$1,089.00	\$4,404.00	1 \$20,114.00

To use preset conditional formatting:

- 1. Select the **desired cells** for the conditional formatting rule.
- 2. Click the **Conditional Formatting** command. A drop-down menu will appear.
- Hover the mouse over the desired preset, then choose a preset style from the menu that appears.

	Α	В	С	D	E	
1	Salesperson	May	June	July	Aug.	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	
з	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	
6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00	
7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00	
8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00	
9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00	
10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.03	

≠		Normal		Bad	Good	b	*
Conditional Formatting •		Neutral		Calculation	Cheo	k Cell] ,
	light Cells	Rules →	Styles	5			
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lcon	Sets	ŀ					
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- 🐼 <u>C</u> lear R	ules e <u>R</u> ules	×.	<u>M</u> ore	Rules			
	_						

4. The conditional formatting will be applied to the selected cells.

	A	В	С	D	E	
1	Salesperson	May	June	July	Aug.	
2	Albertson, Kathy	\$3,947.00	\$557.00	\$3,863.00	\$1,117.00	
3	Allenson, Carol	\$4,411.00	\$1,042.00	\$9,355.00	\$1,100.00	
4	Altman, Zoey	\$2,521.00	\$3,072.00	\$6,702.00	\$2,116.00	
5	Bittiman, William	\$4,752.00	\$3,755.00	\$4,415.00	\$1,089.00	
6	Brennan, Michael	\$4,964.00	\$3,152.00	\$11,601.00	\$1,122.00	
7	Carlson, David	\$2,327.00	\$4,056.00	\$3,726.00	\$1,135.00	
8	Collman, Harry	\$3,967.00	\$4,906.00	\$9,007.00	\$2,113.00	
9	Counts, Elizabeth	\$4,670.00	\$521.00	\$4,505.00	\$1,024.00	
10	David, Chloe	\$3,379.00	\$3,428.00	\$3,973.00	\$1,716.00	

Introduction

When you have a lot of data, it can sometimes be difficult to analyze all of the information in your worksheet. **PivotTables** can help make your worksheets more manageable by **summarizing** data and allowing you to **manipulate** it in different ways

Using PivotTables to answer questions

Let's say we wanted to answer the question: What is the amount sold by each salesperson? for the sales data in the example below. Answering this question could be time consuming and difficult—each salesperson appears on multiple rows, and we would need to total all of their different orders individually. We could use the **Subtotal** command to help find the total for each salesperson, but we would still have a lot of data to work with.

	A	В	С	D	E	F
1	Salesperson	Region	Account	Order Amount	Month	
2	Albertson, Kathy	East	29386	\$925.00	January	
3	Albertson, Kathy	East	74830	\$875.00	February	
4	Albertson, Kathy	East	90099	\$500.00	February	
5	Albertson, Kathy	East	74830	\$350.00	March	
6	Brennan, Michael	West	82853	\$400.00	January	
7	Brennan, Michael	West	72949	\$850.00	January	
8	Brennan, Michael	West	90044	\$1,500.00	January	
9	Brennan, Michael	West	82853	\$550.00	February	
10	Brennan, Michael	West	72949	\$400.00	March	
-11	Da∨is, William	South	55223	\$235.00	February	
12	Da∨is, William	South	10354	\$850.00	January	
13	Da∨is, William	South	50192	\$600.00	March	
14	Da∨is, William	South	27589	\$250.00	January	
15	Dumlao, Richard	West	67275	\$400.00	January	

Fortunately, a **PivotTable** can instantly **calculate** and **summarize** the data in a way that's both easy to read and manipulate. When we're done, the PivotTable will look something like this:

Row Labels 📃 Sum a	f Order Amount
Albertson, Kathy	\$2,650.00
Brennan, Michael	\$3,700.00
Da∨is, William	\$1,935.00
Dumlao, Richard	\$1,490.00
Flores, Tia	\$4,565.00
Post, Melissa	\$1,690.00
Thompson, Shannon	\$3,160.00
Walters, Chris	\$4,375.00
Grand Total	\$23,565.00

Once you've created a PivotTable, you can use it to answer different questions by rearranging—or **pivoting**—the data. For example, if we wanted to answer the question: **What is the total amount sold in each month?** we could modify our PivotTable to look like this:

Row Labels 👻 Sum	of Order Amount
January	\$9,090.00
February	\$9,160.00
March	\$5,315.00
Grand Total	\$23,565.00

To create a PivotTable:

1. Select the **table** or **cells** (including column headers) containing the data you want to use.

	Α	В	С	D	E	F
1	Salesperson	Region	Account	Order Amount	Month	
2	Albertson, Kathy 🖧	East	29386	\$925.00	January	
3	Albertson, Kathy	East	74830	\$875.00	February	
4	Albertson, Kathy	East	90099	\$500.00	February	
5	Albertson, Kathy	East	74830	\$350.00	March	
6	Brennan, Michael	West	82853	\$400.00	January	
7	Brennan, Michael	West	72949	\$850.00	January	
8	Brennan, Michael	West	90044	\$1,500.00	January	
9	Brennan, Michael	West	82853	\$550.00	February	
10	Brennan, Michael	West	72949	\$400.00	March	
11	Da∨is, William	South	55223	\$235.00	February	
12	Da∨is, William	South	10354	\$850.00	January	
13	Da∨is, William	South	50192	\$600.00	March	
14	Da∨is, William	South	27589	\$250.00	January	
15	Dumlao, Richard	West	67275	\$400.00	January	

2. From the **Insert** tab, click the **PivotTable** command.

FILE	HOME	INSERT	PAGE LAYOUT	FORMULAS
PivotTable F	Recommen PivotTable Tables			C Shapes ▼ T SmartArt Screenshot ▼ rations

3. The Create PivotTable dialog box will appear. Choose your settings, then click OK. In our example, we'll use Table1 as our source data and place the PivotTable on a new worksheet.



field is simply a column header from

Defer Layout Update 2012 Sales (+)4 Sheet2 the source data. In the PivotTable Field List, check the box for each field you want to add. In our example, we want to know the

total amount sold by each salesperson, so we'll check the Salesperson and Order Amount fields.



The selected fields will be added to one of the four areas below the Field List. In our example, the Salesperson field has been added to the Rows area, while the Order Amount has been added to the Values area. Alternatively, you can click, hold, and drag a field to the desired

area.

- × **PivotTable Fields** Choose fields to add to report: Salesperson Region Account ✓ Order Am Month MORE TABLES. Drag fields betw T FILTERS ROWS VALUES Salesperson Sum of Order ... 🔻 Defer Layout Update UPDATE
- 7. The PivotTable will calculate and summarize the selected fields. In our example, the PivotTable shows the amount sold by each salesperson.





Just like with normal spreadsheet data, you can sort the data in a PivotTable using the **Sort & Filter** command in the Home tab. You can also apply any type of **number formatting** you want. For example, you may want to change the **Number Format** to **Currency**. However, be aware that some types of formatting may disappear when you modify the PivotTable.

Row Labels	💷 Sum of Order Amount
Flores, Tia	\$4,565.00
Walters, Chris	\$4,375.00
Brennan, Michae	\$3,700.00
Thompson, Shann	on \$3,160.00
Albertson, Kathy	\$2,650.00
Da∨is, William	\$1,935.00
Post, Melissa	\$1,690.00
Dumlao, Richard	\$1,490.00
Grand Total	\$23,565.00

Pivoting data

One of the best things about PivotTables is that they can quickly **pivot**—or reorganize—data, allowing you to look at your worksheet data in different ways. Pivoting data can help you answer **different questions** and even **experiment** with the data to discover new trends and patterns.

In our example, we used the PivotTable to answer the question: **What is the total amount sold by each salesperson**? But now we'd like to answer a new question: **What is the total amount sold in each month**? We can do this by simply changing the field in the **Rows** area.

To change the row:

1. Click, hold, and drag any existing **fields** out of the **Rows** area. The field will disappear.



 Drag a new field from the Field List into the Rows area. In our example, we'll use the Month field.



А3	· · ·	\times \checkmark $f_{\rm x}$	Row Labe	ls		
	А	В		C 🔺	D' 17 11 5	iolds 🔻
1					PivotTable F	-ields
2					Choose fields to add	to report: 🛛 🔅 👻
3	Row Labels 💌	Sum of Order A	mount			
4	January	-	9090		Salesperson	
5	February		9160		Region	
6	March		5315		Account Order Amount	
7	Grand Total		23565		✓ Month	
8					MORE TABLES	
9					MORE TABLES	
10						
11					Drag fields between	areas below:
12						
13					▼ FILTERS	III COLUMNS
14						
15						
16					ROWS	Σ VALUES
17					Month 🔻	Sum of Order 🔻
18						
10				-		
	 → She 	et2 2012 Sales	+	:	Defer Layout Upo	date UPDATE



To add columns:

So far, our PivotTable has only shown **one column** of data at a time. In order to show **multiple columns**, you'll need to add a field to the **Columns** area.

- 1. Drag a field from the **Field List** into the **Columns** area. In our example, we'll use the **Region** field.
- 2. The PivotTable will include multiple columns. In our example, there is now a column for each region.

Sum of Order Amount Column Labels 💌											
Row Labels	👻 East		North	South	West	Grand Total					
January		1690	1140	3110	3150	9090					
February		1950	1720	3975	1515	9160					
March		700	300	3790	525	5315					
Grand Total		4340	3160	10875	5190	23565					



Filters

Sometimes you may want focus on just a certain section of your data. **Filters** can be used to **narrow down** the data in your PivotTable, allowing you to view only the information you need.

To add a filter:

In our example, we'll filter out certain salespeople to determine how they affect the total sales.

- 1. Drag a field from the **Field List** to the **Filters** area. In this example, we'll use the **Salesperson** field.
- 2. The **filter** will appear above the PivotTable. Click the **drop-down arrow**, then check the box next to **Select Multiple Items**.

		А		В	С	D	Е	F	G
1	Salespe	rson	(All)	-	·				
2		Search		Q					
3	Sum of	(AII)							
4	Row La	Albertson, Ka	-		North	South	West	Grand Total	
5	Januar				1140	3110	3150	9090	
6	Februa	🗹 Dumlao, Rich			1720	3975	1515	9160	
7	March	✓ Flores, Tia ✓ Post, Melissa			300	3790	525	5315	
8	Grand	Thompson, S			3160	10875	5190	23565	
9		✓ Walters, Chri	s						
10									
11		Select Multiple	tems						
12			_						
13			OK	Cancel					
14									



 Uncheck the box for any items you don't want to include in the PivotTable. In our example, we'll uncheck the boxes for a few different salespeople, then click OK.

		А		В	С	D	Е	F	G
1	Salespe	rson	(All)	v					
2		Search		P					
3	Sum of	(All)							
4	Row La				North	South	West	Grand Total	
5	Januar	✓ Brennan, Mi ✓ Davis, Williar			1140	3110	3150	9090	
6	Februa	🗹 Dumlao, Rich			1720	3975	1515	9160	
7	March	- ✓ Flores, Tia Post, Melissa			300	3790	525	5315	
8	Grand	- Post, Melissa - Thompson, S			3160	10875	5190	23565	
9			S						
10									
11		 Select Multiple 	tems						
12									
13			ок 🖓	Cancel					
14									

4. The PivotTable will adjust to reflect the changes.

	A	В	С	D	E	F	G
1	Salesperson	(Multiple Items)	Ţ				
2							
3	Sum of Order Amou	int Column Labels	-				
4	Row Labels	💌 East	North	South	West	Grand Total	
5	January	9	25 1140	2755	3150	7970	
6	February	13	75 1720	1220	1515	5830	
7	March	3	50 300	2525	525	3700	
8	Grand Total	26	50 3160	6500	5190	17500	
9							
10							

Slicers

Slicers make filtering data in PivotTables even easier. Slicers are basically just **filters**, but they're easier and faster to use, allowing you to instantly pivot your data. If you frequently filter your PivotTables, you may want to consider using slicers instead of filters.

To add a slicer:

- 1. Select any cell in the PivotTable.
- 2. From the **Analyze** tab, click the **Insert Slicer** command.



3. A dialog box will appear. Select the desired **field**. In our example, we'll select **Salesperson**, then click **OK**.

Insert Slicers ? ×	
✓ Salesperson ☐ Region ☐ Account ☐ Order Amount ☐ Month	
OK Cancel	

5. Just like filters, only selected items are used in the PivotTable. When you select or deselect items, the PivotTable will instantly reflect the changes. Try selecting different items to see how they affect the PivotTable. Press and hold the Ctrl key on your keyboard to select multiple items from a slicer.



 The slicer will appear next to the PivotTable. Each selected item will be highlighted in **blue**. In the example below, the slicer contains a list of all salespeople, and **six** of them are currently selected.

	A		В	С	D	E	F	C
1	Salesperson	(Multip	ole Items) 🖵					
2								
3	Sum of Order Ar	mount Colum	n Labels 🖃					
4	Row Labels	👻 East		North	South	West	Grand Total	
5	January		925	1140	2755	3150	7970	
6	February		1375	1720	1220	1515	5830	
7	March		350	300	2525	525	3700	
8	Grand Total		2650	3160	6500	5190	17500	
9					alespe	reon	5	
10					arespe	13011		
11					Albert	son, K	athy	
12					Brenne	an. Mi	ichael	
13								
14					Da∨is,	Willia	m	
15					Dumla	o, Ric	hard	
16					-	-		
17					Flores,	lia		
18				[Post, N	Aelisso	3	
19				— i	The second second	0		
20					momp	ison, s	hannon	
21					Walter	rs, Chr	ris	
22								

You can also click the **Filter icon** in the top-right corner to select all items from the slicer at once.

Pivot Charts

Pivot Charts are like regular charts, except they display data from a **PivotTable**. Just like regular charts, you'll be able to select a **chart type**, **layout**, and **style** that will best represent the data.

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								-	
		A	В	C	D	E	F 🔺		
		1						PivotTable Fi	elds 👻 🗙
To create a PivotChart:		2							
		3 Sum of Order Amoun	nt Column Labels 🔻					Choose fields to add to	o report: 🚯 🔻
		4 Row Labels	 January 	February	March	Grand Total			
In this evenenie, our DivetTable is		5 Albertson, Kathy	\$925.00	\$1,375.00	\$350.00	\$2,650.00		✓ Salesperson	A
In this example, our PivotTable is		6 Brennan, Michael	\$2,750.00	\$550.00	\$400.00	\$3,700.00		Region	
showing each person's total sales	per	7 Davis, William	\$1,100.00	\$235.00	\$600.00	\$1,935.00		Account	
month. We'll use a PivotChart so	we	8 Dumlao, Richard	\$400.00	\$965.00	\$125.00	\$1,490.00		Order Amount	
can see the information more cle	arly	9 Flores, Tia	\$1,655.00	\$985.00	\$1,925.00	\$4,565.00		✓ Month	
		10 Post, Melissa	\$765.00	\$575.00	250.00 ers	\$1,690.00			
		11 Thompson, Shannon	\$1,140.00	\$1,720.00	\$300.00	\$3,160.00		Drag fields between a	reas below:
1. Select any cell in your Pivo	Table	12 Walters, Chris	\$355.00	\$2,755.00	\$1,265.00	\$4,375.00			
1. Select any centility out Fivo	. Table.	13 Grand Total	\$9,090.00	\$9,160.00	\$5,315.00	\$23,565.00		▼ FILTERS	III COLUMNS
		14 Salesperson	-T _X						Month 💌 🤤
2. From the Insert tab, click								ROWS	Σ VALUES
the PivotChart command.		16 Albertson, Kathy							Sum of Or
the Protenant command.		Brennan, Michael						Salesperson 🔻 💷	Sum of Or 👻 💷

HOME	INSERT	PAGE LAYOUT	FORMULAS	DATA	REVIEW	VIEW	ANALYZE	DESIGN	
Recommen PivotTable	ded Table	Pictures Online Pictures	応 Shapes ▼ The SmartArt Screenshot ▼	Apps for Office *	Recommender Charts	- XX	⊪ ・☆・ 盆 ・論・ ⊡・	PivotChart	Power View
Tables		Illusti	ations	Apps		Cha	irts	G.	Reports

3. The Insert Chart dialog box will appear.

Select the desired **chart type** and **layout**, then click **OK**.



Try using slicers or filters to change the data that is displayed. The PivotChart will automatically adjust to show the new data.

Row Labels	🖵 Janua	ary	February	March	Grand Total		
Albertson, Kathy		\$925.00	\$1,375.00	\$350.00	\$2,650.00)	
lores, Tia		\$1,655.00	\$985.00	\$1,925.00	\$4,565.00)	
hompson, Shannon		\$1,140.00	\$1,720.00	\$300.00	\$3,160.00)	
Grand Total		\$3,720.00	\$4,080.00	\$2,575.00	\$10,375.00)	
Salesperson	*	Sum of Order	Amount				
Albertson, Kathy		\$2,500.00 —					
Brennan, Michael		\$2,000.00 —				_	
Da∨is, William		\$1,500.00 —					Month 👻
Dumlao, Richard		\$1,000.00					 February
Flores, Tia		\$500.00 —					March
Post, Melissa		\$0.00					
Thompson, Shanna	n	A	lbertson, Kat	hy Flore		mpson, annon	
Walters, Chris		Salesperson	- T				

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Chapter-25 What-If Analysis

Introduction

Excel includes many powerful tools to perform complex mathematical calculations, including what-if analysis. This feature can help you **experiment** and **answer questions** with your data, even when the data is incomplete. In this lesson, you will learn how to use a what-if analysis tool called Goal Seek.

Goal Seek

Whenever you create a formula or function in Excel, you put various parts together to calculate a result. Goal Seek works in the opposite way: It lets you start with the desired result, and it calculates the input value that will give you that result. We'll use a few examples to show how to use Goal Seek.

To use Goal Seek (example 1):

Let's say you're enrolled in a class. You currently have a grade of 65, and you need at least a 70 to pass the class. Luckily, you have one final assignment that might be able to raise your average. You can use Goal Seek to find out what grade you need on the final assignment to pass the class.

In the image below, you can see that the grades on the first four assignments are 58, 70, 72, and 60. Even though we don't know what the fifth grade will be, we can write a formula-or function-that calculates the final grade. In this case, each assignment is weighted equally, so all we have to do is average all five grades by typing =AVERAGE(B2:B6). Once we use Goal Seek, cell B6 will show us the minimum grade we'll need to make on that assignment.

- Select the cell whose value you want to change. Whenever you use 1. Goal Seek, you'll need to select a cell that already contains a formula or function. In our example, we'll select cell B7 because it contains the formula =AVERAGE(B2:B6).
- From the Data tab, click the What-If Analysis command, then 2. select **Goal Seek** from the drop-down menu.

DATA	REVIEV	/ 1	VIEW	DE	SIGN							
A↓ Z	A	r	Clear Reapph			E,	→		~ =		6) []
Z↓ S	ort Fi	ter	Advanc		Text to	Flash	Remove	Data	Consolidate		Relationships	Group
				eu	Columns	Fill	Duplicates	Validation		Analysis *		
	Sort	& Filter						Data T	ools	Scer	nario Manager	
										<u>G</u> oa	Seek	
										Data	Table	

- A dialog box will appear with three fields: 3.
 - 0 Set cell: This is the cell that will contain the desired result. In our example, cell **B7** is already selected.
 - To value: This is the desired result. In 0 our example, we'll enter 70 because we need to earn at least that to pass the class.

By changing cell: This is the cell where Goal Seek will place its answer. In our example, we'll select cell **B6**because we want to determine the grade we need to earn on the final assignment.

When you're done, click **OK**. 4.

B6	5 - E	\times \vee	f _x	=AVEF	RAGE	(B2:B6)			
	А		В	С		D	E		F
1	Assignment		rade						
2	Test 1		58						
3	Paper 1		70						
4	Test 2		72						
5	Paper 2		60						
6	Test 3								
7	Final Grade	F	65						
8						_			
9			Go	oal Seek		?	×		
10			S <u>e</u> t cell:		B7		-	_	
11								_	
12			To <u>v</u> alue:		70				
13			By <u>c</u> hang	ing cell:	SBS	5	1	_	
14				OK N		Canc	el	_	
15					3	cunc		_	
16									

5. The dialog box will tell you if Goal Seek was able to find a solution. Click **OK**.



С	OUNTA 🔻	: × 🗸	f_{∞}	=AV	ERAGE(B2:B6)
	А	В		С	D
1	Assignment	Grade			
2	Test 1	58	1		
3	Paper 1	70			
4	Test 2	72			
5	Paper 2	60			
6	Test 3				
7	Final Grade =	AVERAGE(B2:B	6)		
8					

B7	7 - :	$\times \checkmark f_x$	=AVERA	GE(B2:B6)
	А	В	с	D
1	Assignment	Grade		
2	Test 1	58		
3	Paper 1	70		
4	Test 2	72		
5	Paper 2	60		
6	Test 3			
7	Final Grade	65 🗘		
8				
9				

6. The result will appear in the specified cell. In our example, Goal Seek calculated that we will need to score at least a 90 on the final assignment to earn a passing grade.

	A	В	С	D	E	F	G
1	Assignment	Grade					
2	Test 1	58					
3	Paper 1	70					
4	Test 2	72					
5	Paper 2	60					
6	Test 3	90 🔶			determi		
7	Final Grade	70		by	Goal See	к	
8				_			
9							

To use Goal Seek (example 2):

Let's say you're planning an event and want to invite as many people as you can without exceeding a budget of \$500. We can use Goal Seek to figure out how many people to

invite. In our example below, cell **B4** contains the formula **=B1+B2*B3** to calculate the total cost of a room reservation, plus the cost per person.

- **B4** fx =B1+B2*B3 D Δ в C Reservation fee \$230.00 1 Price per person \$14.50 2 Number of guests 3 \$230.00 Budget ¢ 4
- 1. Select the cell whose value you want to change. In our example, we'll select cell ${\bf B4}.$
- From the Data tab, click the What-If Analysis command, then select Goal Seek from the drop-down menu.



- 3. A dialog box will appear with three fields:
 - Set cell: This is the cell that will contain the desired result. In our example, cell **B4** is already selected.
 - To value: This is the desired result. In our example, we'll enter 500 because we only want to spend \$500.
- **By changing cell:** This is the cell where Goal Seek will place its answer. In our example, we'll select cell **B3**because we want to know how many guests we can invite without spending more than \$500.
- 4. When you're done, click **OK**.



 The dialog box will tell you if Goal Seek was able to find a solution. Click OK.

Goal Seek Status	? ×
Goal Seeking with Cell B4 found a solution.	Step
Target value: 500 Current value: \$500.00	Pause
OK	Cancel

6. The result will appear in the specified cell. In our example, Goal Seek calculated the answer to be approximately 18.62. In this case, our final answer needs to be a whole number, so we'll need to round the answer up or down. Because rounding up would cause us to exceed our budget, we'll **round down** to 18 quests.

BB	3 * : >	√ f _x	18.62068	96551724
	А	В	С	D
1	Reservation fee	\$230.00		
2	Price per person	\$14.50		
3	Number of guests	18.6207		
4	Budget	\$500.00		
5				

As you can see in the example above, some situations will require the answer to be a whole number. If Goal Seek gives you a decimal, you'll need to **round up or down**, depending on the situation.

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Other types of what-if analysis

For more advanced projects, you may want to consider the other types of what-if analysis: **scenarios** and **data tables**. Instead of starting from the desired result and working backward, like Goal Seek, these options allow you to test multiple values and see how the results change.

• **Scenarios** let you substitute values for **multiple cells** (up to 32) at the same time. You can create as many scenarios as you want and then compare them without changing the values manually. In the example below, we're using scenarios to compare different venues for an upcoming event.



For more information on scenarios, check out **this article** from Microsoft.

• **Data tables** allow you to take one or two variables in a formula and replace them with **as many different values as you want**, then view the results in a table. This option is especially powerful because it shows **multiple results** at the same time, unlike scenarios or Goal Seek. In the example below, we can view 24 possible results for a car loan.

Loan Amount		20000				-	
Term (months)	60			- 4		Terms (months)	
Interest Rate							
Payment	(\$3	33.33)	36	48	60	72	
		5.5%	-\$603.92	-\$465.13	-\$382.02	-\$326.76	
		6.0%	-\$608.44	-\$469.70	-\$386.66	-\$331.46	
		6.5%	-\$612.98	-\$474.30	-\$391.32	-\$336.20	
	-	7.0%	-\$617.54	-\$478.92	-\$396.02	-\$340.98	
		7.5%	-\$622.12	-\$483.58	-\$400.76	-\$345.80	
		8.0%	-\$626.73	-\$488.26	-\$405.53	-\$350.66	
Interest rates				~			sults payments)

Chapter-26 Excel 2013: Customizing the Ribbon

To customize the Ribbon in Excel 2013:



To view the Ribbon in Touch Mode in Excel 2013:

If you're working on a touch-screen device, you can enable Touch Mode to create more open space on the Ribbon, making commands easier to tap with your fingers.

- Click the drop-down arrow to the right of 1. the Quick Access toolbar, then select Touch/Mouse Mode from the drop-down menu.
- 2. The Touch/Mouse Mode command will appear on the Quick Access toolbar.

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Click the Touch/Mouse Mode command, then 3. select **Touch** from the drop-down menu.

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The Ribbon will switch to Touch Mode. 4.



What are reference styles?

Clipboard E.

> Every Excel spreadsheet contains rows and columns. Most of the time, columns are identified by letters (A, B, C), and rows are identified by numbers (1, 2, 3). In Excel, this is known as the A1 reference style. However, some prefer to use a different method where columns are also identified by numbers. This is known as the R1C1 reference style.



While the R1C1 reference style is helpful for certain situations, you'll probably want to use the A1 reference style most of the time. This tutorial will use the A1 reference style. If you're currently using the R1C1 reference style, you'll need to turn it off.

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To turn off the R1C1 reference style:

- 1. Click the **File** tab to access **backstage view**.
- 2. Click **Options**.

Save As

Print

Share

Export Close

Account Options



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3. The **Excel Options** dialog box will appear. Click **Formulas**, uncheck the box next to **R1C1 reference style**, then click **OK**. Excel will now use the A1 reference style.

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	Excel Options ?	×
	General Calculation options	^
►	Formulas Workbook Calculation ① Enable iterative calculation Proofine Automatic Maximum Iterations: 100 • Save Automatic except for data tables Maximum Change: 0.001 Click Formulas, then Recalculate Recalculate Iterative calculation	
	Cu	
	Quick Access Toomat Working with formulas	- 1
	Add-ins Image: Iteration of the style	
	 Use table names in formulas Use GetPivotData functions for PivotTable references 	~
	ОК Са	ncel

4 free alternatives to

Microsoft Office

Microsoft Office is one of the most popular programs on the market, with more than **1 billion users** worldwide. But at \$139.99 for just the basic package (Word, Excel, PowerPoint, and OneNote only), it's also a little expensive. What if you can't afford it?

Thankfully, there are programs like **Google Docs**, **Office Online**, **Open Office**, and **LibreOffice**. They don't have as many features as Microsoft Office (think of them as **Office lite**), but they're free, easy to use, and readily available online. They're a great alternative if you're looking for something simple or if you can't stomach the price of Microsoft Office.

We wanted to share these programs with you just in case you hadn't heard of them before. We hope you find them useful at home, at work, or at school.

Google Docs

<u>Google Docs</u> is a web-based program you can access directly from your browser. This means there's nothing to download or install—all you have to do is sign in to your **Google** account and navigate to **Google Drive** (where

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Google Docs is housed), and you can create and store files online.

Google Docs comes with all types of useful features, like the ability to **share your files** with other people so you can work on them at the same time. You can also access your files on **any device**, including your phone, tablet, or a different computer.

To learn more, visit our Google Drive and Docs tutorials:

- Google Drive
- Google Documents
- Google Sheets

Office Online

Microsoft's **Office Online** is also a web-based program. All you need is a free account—this time, a **Microsoft account**—and you can access your files almost anywhere. You can also **share your files** online and collaborate with other users.



The coolest thing about Office Online is how similar it is to **Microsoft Office** (after all, both products are made by Microsoft). It offers many of the **same tools and features**, just in a simpler, more web-friendly package. The interface should be a breeze if you have any experience with the desktop version of Office.

Learn more about it with our tutorial:

OneDrive and Office Online

OpenOffice and LibreOffice

Looking for a more traditional alternative to Microsoft Office? Something that you can actually **download and install** on your computer? You might want to check out <u>OpenOffice</u> or <u>LibreOffice</u>.



These programs may not be as slick as Google Docs or Office Online, but they come with a few extra features, including a tool for **creating and managing databases**. You can use them for almost all of your home and office needs, and the environment is remarkably similar to older versions of Microsoft Office.

Simplified

E-BOOK MS Excel 2013



(An I.T Skill Advancement Training Programme, Initiated by SITED[®]-India)

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